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February 20, 2018

Ms. Cathy Stepp  
Regional Administrator  
U.S. Environmental Protection Agency - Region 5 (R-19J)  
77 West Jackson Boulevard  
Chicago IL 60604-3507

Subject: Redesignation Request and Maintenance Plan for the Sheboygan County 2008 Ozone National Ambient Air Quality Standard (NAAQS) Nonattainment Area

Dear Regional Administrator Stepp:

The Wisconsin Department of Natural Resources (DNR) requests approval of the enclosed Redesignation Request and Maintenance Plan for the Sheboygan County 2008 Ozone NAAQS Nonattainment Area. Per Section 107(d)(3)(D) of the Clean Air Act, states may request that nonattainment areas be redesignated to attainment provided that certain criteria are met. Sheboygan County's nonattainment status is based on ozone concentrations measured at the lakeshore Kohler Andrae monitoring site. The DNR is requesting that EPA redesignate Sheboygan County to attainment and approve the maintenance plan for the 2008 ozone NAAQS based on the attainment-level ozone concentrations measured at the inland Sheboygan Haven monitoring site for the years 2014 through 2017.

The DNR provided opportunity for public comment on this SIP submittal and conducted a public hearing in Madison on January 22, 2018. A copy of the public hearing notice is enclosed. A summary of the public comments received and the responses provided can be found in Section 8 of the redesignation request and maintenance plan.

This SIP is being submitted using EPA's State Planning Electronic Collaboration System (SPeCS). If you have any questions regarding this submittal, please contact David Bizot at 608-267-7543 or [david.bizot@wisconsin.gov](mailto:david.bizot@wisconsin.gov).

Sincerely,

Gail E. Good  
Director  
Air Management

cc: David Bizot – AM/7  
James Bonar-Bridges – LS/8  
Doug Aburano – U.S. EPA Region V (AR-18J)

Enclosures:

1. Redesignation Request and Maintenance Plan for Sheboygan County 2008 Ozone NAAQS Nonattainment Area
2. Public Hearing Notice
3. Proof of Publication of Public Hearing Notice
4. SIP Revision Certification

REDESIGNATION REQUEST AND MAINTENANCE  
PLAN

FOR THE

SHEBOYGAN COUNTY, WISCONSIN  
2008 8-HOUR OZONE NONATTAINMENT AREA

Wisconsin Department of Natural Resources

FEBRUARY 2018

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## List of Acronyms

AQS	EPA's Air Quality System database
CAA	Clean Air Act
CAIR	Clean Air Interstate Rule
CSAPR	Cross-State Air Pollution Rule
CTG	Control Technology Guideline
EGU	Electric Generating Unit
EPA	U.S. Environmental Protection Agency
I/M	Inspection and Maintenance
I-SIP	Infrastructure SIP
LADCO	Lake Michigan Air Directors Consortium
MOVES	EPA's MOtor Vehicle Emission Simulator model
MVEB	Motor Vehicle Emissions Budget
NAAQS	National Ambient Air Quality Standard
NEI	National Emissions Inventory
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO <sub>x</sub>	Nitrogen Oxides (NO and NO <sub>2</sub> )
NSR	New Source Review
PM <sub>2.5</sub>	fine particulates
PM <sub>10</sub>	coarse particulates
ppm	parts per million
PSD	Prevention of Significant Deterioration
RACM	Reasonably Available Control Measures
RACT	Reasonably Available Control Technology
RFP	Reasonable Further Progress
SIP	State Implementation Plan
tpsd	tons per summer day
VOC	Volatile Organic Compounds
WDNR	Wisconsin Department of Natural Resources

## 1. INTRODUCTION

Wisconsin requests that the U.S. Environmental Protection Agency (EPA) redesignate the Sheboygan County, WI, nonattainment area to attainment for the 2008 8-hour ozone National Ambient Air Quality Standard (NAAQS). The Sheboygan nonattainment area for the 2008 ozone NAAQS is shown in Figure 3.1. The Sheboygan Haven monitor has recorded four years of complete, quality-assured ambient air quality monitoring data for the years 2014 through 2017 that demonstrate attainment of the 2008 ozone NAAQS.

### 1.1. Background

The federal Clean Air Act (CAA) requires an area not meeting a NAAQS for a specified criteria pollutant to develop or revise its State Implementation Plan (SIP) to expeditiously attain and maintain the NAAQS in that area. When attainment of a NAAQS in a nonattainment area has been achieved, Section 107(d)(3)(D) of the CAA allows states to request the nonattainment area to be redesignated to attainment provided that certain criteria are met.

Historically, exceedances of the federal ozone standards have been monitored along the lakeshore of Lake Michigan, including Sheboygan County. Sheboygan County was designated nonattainment for two previous ozone NAAQS and was redesignated to attainment for the 1979 NAAQS. Sheboygan County monitors have been attaining the 1997 NAAQS since the 2012-2014 design value year (and had previously monitored attainment for the 2006-08 through 2009-11 design value years). This area was not redesignated to attainment before the 1997 NAAQS was revoked, however. The history of nonattainment in Sheboygan County is shown below in Table 1.1.

**Table 1.1. Sheboygan County nonattainment history for ozone NAAQS.**

<b>Year Promulgated</b>	<b>1979</b>	<b>1997</b>	<b>2008</b>
<b>Level</b>	0.12 ppm	0.08 ppm	0.075 ppm
<b>Averaging Time</b>	1 hour	8 hours	8 hours
<b>Classification</b>	Serious/moderate <sup>a</sup>	Moderate	Marginal (reclassified to moderate)
<b>Finding of / Redesignation to Attainment</b>	8/26/1996 61 FR 43668	NA <sup>b</sup>	TBD

<sup>a</sup> The Sheboygan nonattainment area was originally classified as “serious”, but was reclassified from “serious” to “moderate” in 1992 (57 FR 56762).

<sup>b</sup> EPA finalized a clean data determination for the 1997 NAAQS for the Sheboygan nonattainment area in 2011 (76 FR 11080). However, the area’s design value exceeded the NAAQS for the 2010-2012 and 2011-2013 design value years. The area has attained the 1997 NAAQS since the 2012-2014 design value year but was not redesignated before the NAAQS was revoked in 2015.

In March 2008, the EPA finalized a revision to the 8-hour ozone NAAQS (73 FR 16436). The 2008 ozone NAAQS (0.075 parts per million, ppm) was more restrictive than the previous 1997 ozone NAAQS (0.08 ppm). In May 2012, EPA published a final rulemaking that designated Sheboygan County as marginal nonattainment for the 2008 ozone NAAQS (77 FR 30088). This rulemaking was based on EPA’s review of ozone monitoring data collected during the years

2008 to 2010. On December 19, 2016, EPA reclassified the Sheboygan County nonattainment area from marginal to moderate nonattainment status, effective that day (81 FR 91841). This reclassification was based on 2013-2015 monitoring data.

## **1.2. Geographical Description**

Sheboygan County is located in eastern Wisconsin along the western shoreline of Lake Michigan. Sheboygan County's population was 115,507 in 2010, with almost half of the residents (49,290) living in the largest city, Sheboygan. Sheboygan County is mostly rural, with a population density of 226 persons/square mile in 2010.<sup>1</sup> This county is located just north of the Milwaukee-Waukesha-West Allis Metropolitan Statistical Area.

The lakeshore in Sheboygan County receives high concentrations of ozone transported from emissions sources in upwind regions located to the south, as described in greater detail in Section 4. As EPA stated in its December 19, 2016 reclassification notice, Sheboygan's Kohler Andrae monitor "...was not placed to monitor the maximum downwind impacts from the urbanized portion of the Sheboygan area, but to capture maximum downwind impacts from several urban areas along Lake Michigan, including Milwaukee, Wisconsin; Chicago, Illinois; and Gary, Indiana." (81 FR 91842) Ozone transported from out of state is the dominant source of ozone in Sheboygan County, accounting for approximately 87% of the measured ozone concentrations even a few miles inland at the Sheboygan Haven monitor (Figure 4.1).

## **1.3. Status of Ozone Air Quality**

Ozone monitoring data for the most recent four years, 2014 through 2017, demonstrate that the air quality meets the 2008 ozone NAAQS at the Sheboygan Haven monitor, as discussed in more detail in Section 3.<sup>2</sup> In addition, total summer emissions of ozone precursors (nitrogen oxides, NO<sub>x</sub>, and volatile organic compounds, VOC) are projected continue declining. As a result, the Wisconsin Department of Natural Resources (WDNR) expects maintenance of the standard, as discussed in sections 4 and 7, justifying a redesignation to attainment for the Sheboygan nonattainment area based on Section 107(d)(3)(E) of the CAA.

## **1.4. Requirements for Redesignation and Overview of this Redesignation Request**

Sections 107(d)(3)(E)(i) through (v) of the CAA establishes the following criteria to be met in order for an area to be considered for redesignation of a NAAQS:

- (i) A determination by EPA that the area has attained the NAAQS;
- (ii) A fully approved SIP for the area under Section 110(k) of the CAA;
- (iii) A determination by EPA that the improvement in air quality is due to permanent and enforceable reductions in emissions;

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<sup>1</sup> <http://quickfacts.census.gov/qfd/states/55/55117.html>

<sup>2</sup> Sheboygan Haven is designated as a special purpose monitor and began operating in 2014. Measurements from this monitor can be compared to the ozone NAAQS.



- (iv) A fully approved maintenance plan, including a contingency plan, for the area under Section 175(A) of the CAA; and
- (v) A determination that all applicable requirements for the area under Section 110 and Part D of the CAA have been met.

Section 110 and Part D of the CAA list a number of criteria that must be met prior to consideration for redesignation of nonattainment areas to attainment. In addition, EPA has published detailed guidance in a document entitled “Procedures for Processing Requests to Redesignate Areas to Attainment,” issued September 4, 1992 as a memo sent to EPA Regional Air Directors. This document is hereafter referred to as “Redesignation Guidance.” This redesignation request and maintenance plan is based on the Redesignation Guidance, supplemented by additional guidance received from staff at EPA Region 5.

This redesignation request and maintenance plan shows that the Sheboygan nonattainment area has met these CAA criteria as demonstrated by all of the following:

- Ozone monitoring data demonstrate that the Sheboygan Haven monitor has attained the NAAQS (criterion (i), addressed in Section 3).
- Emissions inventories for the nonattainment base year (2011) and attainment year (2014), in combination with a discussion of the control measures in place, indicate that air quality improvements are consistent with observed reductions in NO<sub>x</sub> and VOC inventories and resulted due to permanent and enforceable emissions reductions (criterion (iii), addressed in Sections 4 and 6).
- Transportation conformity budgets and a description of how the state has met other Section 110 and Part D CAA requirements fulfill the state’s remaining requirements for a redesignation request (criteria (ii) and (v), addressed in Sections 2 and 5).
- Projected emissions inventories for the maintenance years (2020 and 2030), modeled projections of maintenance ozone concentrations, and a contingency plan serve as a complete maintenance plan (criterion (iv), addressed in Sections 4 and 7).

## **2. CAA SECTION 110(a) AND PART D REQUIREMENTS**

As a precondition to redesignation of a nonattainment area to attainment, the CAA requires EPA to determine that the state has met all applicable requirements under section 110 and part D of Title I of the CAA (per CAA Section 107(d)(3)(E)(v)) and that the state has a fully approved SIP under Section 110(k) for the area (per CAA Section 107(d)(3)(E)(ii)).

### **2.1. Satisfying CAA Section 110(a) General SIP Requirements**

Section 110(a) of the CAA contains the general requirements for a SIP. Section 110(a)(2) provides that the implementation plan submitted by a state must have been adopted by the state after reasonable public notice and hearing, and, among other things, must:

- Include enforceable emission limitations and other control measures, means or techniques necessary to meet the requirements of the CAA;
- Provide for establishment and operation of appropriate devices, methods, systems, and procedures necessary to monitor ambient air quality;
- Provide for implementation of a source permit program to regulate the modification and construction of any stationary source within the areas covered by the plan;
- Include provisions for the implementation of part C, Prevention of Significant Deterioration (PSD), and part D, New Source Review (NSR) permit programs;
- Include criteria for stationary source emission control measures, monitoring, and reporting; and
- Include provisions for air quality modeling; and provide for public and local agency participation in planning and emission control rule development.

Wisconsin submitted an infrastructure SIP (I-SIP) to satisfy the Section 110 (a) requirements, exclusive of the interstate transport component, for the 2008 ozone NAAQS (and the 2010 NO<sub>2</sub> and SO<sub>2</sub> NAAQS) to EPA on June 20, 2013. The state submitted an additional clarification on January 28, 2015. EPA approved most elements of Wisconsin's I-SIP in a September 11, 2015 rule (80 FR 54725). EPA subsequently approved the three remaining I-SIP components, as follows:

- Most elements relating to Wisconsin's PSD program were approved October 6, 2014 (79 FR 60064). EPA approved the remaining components on February 7, 2017 (82 FR 9515).
- Transport provisions are addressed by EPA's Cross-State Air Pollution Rule (CSAPR) Update for the 2008 Ozone NAAQS, finalized October 26, 2016 (81 FR 74504).
- EPA approved Wisconsin's state board requirements under section 128 of the CAA on January 21, 2016 (81 FR 3334).

Appendix 1 includes Wisconsin's two I-SIP submittals, EPA's partial approval of the I-SIP, and submittal documents and approvals for the additional components. These submissions by

Wisconsin and EPA's approvals demonstrate compliance with the CAA Section 110 requirements.

## **2.2. Satisfying CAA Part D Requirements**

CAA Title I, Part D, Subpart 1 sets forth the basic nonattainment requirements applicable to all nonattainment areas. Subpart 2 of Part D, which includes Section 182 of the CAA, establishes additional required provisions for ozone nonattainment areas based on their level of nonattainment classification.

On December 19, 2016, EPA reclassified the Sheboygan nonattainment area to a classification of moderate (81 FR 91841). This same rulemaking established that the additional moderate nonattainment area SIP elements for areas "bumped up" to moderate status must be submitted by January 1, 2017. Guidance from EPA declares that in submitting a redesignation request, states must meet all Part D requirements that were applicable at the time the redesignation request was submitted.<sup>3</sup> The Sheboygan area is therefore required to meet all moderate area Part D requirements.

### Subpart 1 Requirements

Section 172(c)(1) requires that states implement any reasonably available control measures (RACM) necessary for attainment of the NAAQS. WDNR submitted an evaluation of RACM in Section 6.4 of the Attainment Plan for the Sheboygan County, Wisconsin 2008 8-Hour Ozone Nonattainment Area (the "Sheboygan attainment plan"), submitted to EPA on September 25, 2017.<sup>4</sup> WDNR concluded that no additional controls or emission reduction requirements were applicable for RACM under the 2008 ozone NAAQS in this area.

Section 172(c)(2) requires a demonstration of Reasonable Further Progress (RFP). These requirements are further expanded upon in Section 182(b)(1) of Subpart 2 of the CAA and are discussed in the Subpart 2 section below.

Section 172(c)(3) requires submission and approval of a comprehensive, accurate and complete inventory of actual emissions for the area. This requirement was superseded by the inventory requirement in Section 182(a)(1), discussed in the Subpart 2 section below.

Section 172(c)(4) requires the identification and quantification of allowable emissions for major new and modified stationary sources in an area. Section 172(c)(5) requires source permits for the construction and operation of new and modified major stationary sources in the nonattainment area. Wisconsin has an approved NSR program that meets these requirements. Furthermore, after redesignation, PSD requirements will apply. Wisconsin has an approved PSD program. EPA approved additional provisions in Wisconsin's PSD rule on October 6, 2014 (79 FR 60064) and February 7, 2017 (82 FR 9515).

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<sup>3</sup> "Procedures for Processing Requests to Redesignate Areas to Attainment," memo from John Calcagni to EPA Regional Air Directors, September 4, 1992.

<sup>4</sup> Attainment Plan for the Sheboygan County, Wisconsin 2008 8-Hour Ozone Nonattainment Area, submitted to U.S. EPA September 25, 2017. <http://dnr.wi.gov/topic/AirQuality/documents/SheboyganAttainmentPlan.pdf>

Section 172(c)(7) requires the SIP to meet the applicable provisions of CAA Section 110(a)(2). As noted in the previous section, Wisconsin submitted an affirmation of meeting the Section 110(a) requirements to the EPA on June 20, 2013, with a clarification submitted on January 28, 2015. EPA approved the combined submittal and clarification on September 11, 2015.

Section 172(c)(9) requires contingency measures to be implemented in the event of failure to attain the standard. Section 3.2 of the Sheboygan attainment plan submitted to EPA included emission reductions that serve as the progress-related contingency measures under the 2008 ozone NAAQS.<sup>3</sup>

Section 176(c) of the CAA requires states to establish criteria and procedures to ensure that federally supported or funded activities, including highway projects, conform to the air quality planning goals in the applicable SIPs. The requirement to determine conformity applies to transportation plans, programs, and projects developed, funded, or approved under Title 23 of the U.S. Code and the Federal Transit Act (transportation conformity) as well as to all other federally-supported or funded projects (general conformity). Section 5 of this document includes transportation conformity budgets that, once determined adequate by EPA, will be required for use in future transportation planning efforts.

## Subpart 2 Requirements

Section 182(a)(1) requires the submission of a comprehensive emissions inventory. An emissions inventory is included in Section 4 of this redesignation request.

Section 182(a)(2) requires the submission of certain corrections to VOC Reasonably Available Control Technology (RACT) rules, vehicle inspection and maintenance (I/M) programs and permitting programs. These corrections were addressed for the Sheboygan County portion of the nonattainment area under the 1-hour ozone standard and do not need to be addressed again under the 2008 8-hour standard.

Section 182(a)(3)(B) requires the submission of an emission statement SIP. WDNR affirmed in Section 6.6 of the Sheboygan attainment plan that the SIP contains approved emission statement rules that will remain in place after the area is redesignated to attainment of the 2008 ozone standard.<sup>3</sup>

Section 182(b) requires the submission of an attainment plan. WDNR submitted an attainment plan for the Sheboygan County 2008 ozone NAAQS nonattainment area on September 25, 2017.<sup>3</sup>

Section 182(b)(1), in combination with Section 172(c)(2), requires states with ozone nonattainment areas classified as moderate to make a demonstration of RFP reductions in VOC and/or NO<sub>x</sub> emissions in the area. WDNR submitted a demonstration that the RFP requirement is satisfied for Sheboygan County in Section 3 of the Sheboygan attainment plan.<sup>3</sup>

Section 182(b)(2) requires states with moderate nonattainment areas to implement VOC RACT. WDNR demonstrated in Section 6.3 of the Sheboygan attainment plan that Wisconsin has adopted and implemented administrative rules requiring existing major stationary sources of VOCs in ozone nonattainment areas to meet VOC RACT.<sup>3</sup>

Section 182(b)(4) requires a vehicle I/M program for moderate nonattainment areas. EPA fully approved Wisconsin's I/M program on August 16, 2001 (66 FR 42949) and approved revisions to the program on September 19, 2013 (78 FR 57501).

Section 182(b)(5) requires NO<sub>x</sub> and VOC emission offsets at a ratio of 1.15 to 1 for major source permits in moderate ozone nonattainment areas. These offset ratios are incorporated into Wisconsin's Nonattainment NSR permitting program, which was approved by EPA on January 18, 1995 (60 FR 3538).

Section 182(f) requires states with moderate nonattainment areas to implement NO<sub>x</sub> RACT. EPA approved Wisconsin's NO<sub>x</sub> RACT program in October 2010 (75 FR 64155). WDNR demonstrated in Section 6.2 of the Sheboygan attainment plan that Wisconsin's current NO<sub>x</sub> RACT program fulfills RACT requirements for the 2008 ozone NAAQS.<sup>3</sup>

When EPA approves the enclosed emissions inventory and the moderate nonattainment area requirements submitted in the Sheboygan County attainment plan,<sup>3</sup> Wisconsin will have met all the applicable SIP requirements for the purposes of redesignation.

### **3. OZONE MONITORING**

#### **3.1. Ozone Monitoring Network**

There are currently two ozone monitors operating in the Sheboygan nonattainment area (Figure 3.1). As EPA has explicitly stated, the Sheboygan Kohler Andrae monitor was not placed to measure locally-generated pollutants, but instead “to capture maximum downwind impacts from several urban areas along Lake Michigan, including Milwaukee, Wisconsin; Chicago, Illinois; and Gary, Indiana.”<sup>5</sup> This redesignation request focuses on monitored ozone values at the inland Sheboygan Haven monitor, which is the monitor appropriately sited to measure emissions from Sheboygan County sources. The Sheboygan Haven monitor is located 3.2 miles inland from the lakeshore and has measured ozone concentrations since 2014. Table 3.1 shows the data collected over the last four years at this monitor.

#### **3.2. Ambient Ozone Monitoring Data**

EPA’s requirements for ozone air monitoring data are contained in Appendix P to 40 CFR Part 50 (“Interpretation of the Primary and Secondary National Ambient Air Quality Standards for Ozone”). The level of the 2008 ozone NAAQS is 0.075 ppm. A monitoring site measures compliance with the 2008 ozone NAAQS if it meets the following conditions:

1. There are three complete years of ozone monitoring data at the site.
2. The 3-year average of the annual fourth-highest daily maximum 8-hour average ozone concentration is equal to or less than 0.075 ppm. This value is called the “design value”.

For an area to attain the standard, the design values for all monitoring sites within that area must be equal to or lower than the NAAQS.

Table 3.1 shows the fourth-highest daily maximum 8-hour average values for the Sheboygan Haven ozone monitor for 2014 through 2017. Table 3.1 also shows the 2014-2016 and 2015-2017 design values, both of which are well below the level of the NAAQS. Furthermore, the fourth-highest daily maximum 8-hour average for each year never reached the level of the standard. These data confirm that the Sheboygan Haven monitor attained the 2008 ozone NAAQS.

Significant reductions in emissions of ozone precursors, NO<sub>x</sub> and VOCs, have resulted from a number of permanent and enforceable control measures implemented during the time period associated with the 2008 ozone standard, as discussed in more detail in Sections 4 and 6. As a result of these emissions reductions, meteorologically adjusted concentrations of atmospheric ozone have also decreased over this period, as described in detail in Section 5.2.3 of the Sheboygan attainment plan.<sup>3</sup>

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<sup>5</sup> Reclassification of the Sheboygan, Wisconsin Area to Moderate Nonattainment for the 2008 Ozone National Ambient Air Quality Standards, 81 FR 91842 (Dec. 19, 2016).

**Figure 3.1. Map of the Sheboygan, WI, 2008 ozone nonattainment area (“Sheboygan nonattainment area”), with monitoring locations shown.**



**Table 3.1. Monitoring data for the Sheboygan Haven monitor.** The table shows annual fourth-highest daily maximum 8-hour concentrations and design values in parts per million (ppm). Data were downloaded from EPA’s Air Quality System (AQS) database.

Site ID	Site	4th high 8-hr ozone (ppm)				Design values (ppm)	
		2014	2015	2016	2017	2014-16	2015-17
55-117-0009	Sheboygan Haven	0.068	0.067	0.074	0.070	0.069	0.070

### 3.3. Quality Assurance

All available 2014-2017 data for the Sheboygan Haven ozone monitoring site have been quality assured and archived in AQS. WDNR has an approved Ozone Quality Assurance Project Plan and submits and certifies quality assured monitoring data in accordance with 40 CFR Part 58. The full dataset has been certified and is available to the public.

### 3.4. Data Completeness

The data from all ozone monitoring sites meet EPA requirements for completeness (as described in Appendix P to 40 CFR Part 50) for the four-year period of 2014 to 2017. EPA requires that daily maximum 8-hour average concentrations be available for at least 90% of the days in the

ozone season for a given site over the 3-year period and that no site have less than 75% data completeness for a given year. The average data completeness for the Sheboygan Haven site for the years 2014 to 2017 was 99%.<sup>6</sup> The data completeness for each of the individual years was 99% to 100%, easily meeting EPA's data completeness criteria.

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<sup>6</sup> Data completeness was determined from AMP430 Data Completeness reports downloaded from AQS.



## **4. EMISSIONS INVENTORIES**

### **4.1. Overview and Choice of Inventory Years**

The CAA requires that a state must demonstrate that the improvement in ozone air quality between the nonattainment and attainment years is based on permanent and enforceable emissions reductions in order for a nonattainment area to be redesignated to attainment. WDNR has previously shown that local emissions are essentially decoupled from ozone concentrations at the Sheboygan Kohler Andrae monitor based on photochemical modeling.<sup>4</sup> Furthermore, emissions from upwind states contribute much more ozone to the Sheboygan Haven monitor than do sources in Wisconsin, as shown in Figure 4.1 and discussed below. Sheboygan County sources have little to no ability to influence ozone concentrations at monitors in the county.

Ozone precursor emissions from Sheboygan County sources do not significantly impact locally monitored ozone concentrations, and the county's emissions have decreased dramatically since implementation of the 2008 ozone NAAQS. Accordingly, WDNR is submitting comprehensive inventories of actual and projected emissions that contribute to ozone concentrations in the nonattainment area. These inventories fulfill the demonstration of improvement required under the CAA. Section 6 documents the specific programs responsible for making the emissions reductions permanent and enforceable. These programs are the foundation for the actual emission inventory data discussed in this section. It should be noted that these emission budgets do not result in a limitation on emissions for any specific source or source category in the future. The emission budgets are a snapshot of current emission levels and a best estimate of future emission levels used to demonstrate relative changes in total emissions and future maintenance of the standard. This section also presents emissions trends for the upwind Chicago area, which have a significant impact on ozone concentrations at the Sheboygan Haven monitor.

EPA's Redesignation Guidance requires a state to submit emissions inventories for the following years:

1. A year in which the standard was not attained ("nonattainment year");
2. A year in which the standard was attained ("attainment year");
3. A year at least 10 years beyond the attainment year to demonstrate maintenance ("maintenance year"); and
4. An intermediate year between the attainment year and maintenance year ("interim year").

WDNR has developed the following NO<sub>x</sub> and VOC emission inventories for Sheboygan County as part of the redesignation request:

1. 2011 nonattainment year emissions inventory;
2. 2014 attainment year emissions inventory;
3. 2020 interim maintenance year emissions inventory; and

#### 4. 2030 maintenance year emissions inventory.

The Sheboygan Haven monitor began operating in 2014, so it is impossible to know whether air quality at this monitor attained the 2008 ozone NAAQS in 2011, the “nonattainment” year. However, the monitor clearly attained the NAAQS in the 2014 attainment year and in every year since monitoring began (Table 3.1). Wisconsin is required to demonstrate continued maintenance of the NAAQS for ten years after redesignation. As part of this demonstration, the WDNR is providing a projection of emission for 2020 as the interim projection year and 2030 as the maintenance year. The emission projections through 2030 are relied upon in the maintenance demonstration presented in Section 7.

Tables 4.1 and 4.2 provide summaries of the Sheboygan County emission inventories (in tons per summer day, or tpsd) for NO<sub>x</sub> and VOC for the different sectors. Appendices 2 through 8 contain details about how the inventories were constructed. A comparison of the Sheboygan County emission inventories to the emission inventories from upwind areas is also provided.

#### **4.2. Nonattainment Year (2011) and Attainment Year (2014) Inventories**

WDNR developed the following emissions information to satisfy EPA’s redesignation requirements to submit nonattainment and attainment year inventories for NO<sub>x</sub> and VOCs. EPA has approved Wisconsin’s 2011 emission inventories for Sheboygan County and other nonattainment areas under the 2008 8-hour ozone standard (81 FR 11673). Appendix 2 includes a discussion of the methodology used to estimate sector-specific emissions for 2011 and 2014 (shown in Tables 4.1 and 4.2). Between 2011 and 2014, NO<sub>x</sub> emissions decreased 35%, and VOC emissions decreased 9% in Sheboygan County. These reductions are primarily due to decreases in NO<sub>x</sub> emissions from the electric generating unit (EGU) sector due to the permanent and enforceable measures detailed in Section 6.1, as well as decreases in NO<sub>x</sub> and VOC emissions from the onroad and nonroad mobile sectors provided by the federal and state mobile source control programs detailed in Sections 6.3 and 6.4.

#### **4.3. Maintenance Year Inventories (2020 and 2030)**

WDNR developed emissions information to satisfy the EPA redesignation requirements to submit an interim maintenance year and maintenance year inventory for NO<sub>x</sub> and VOC. Appendix 3 includes information on sector-specific emissions projection methodology. Tables 4.1 and 4.2 above show the projected NO<sub>x</sub> and VOC emissions (in tpsd) in 2020 and 2030 for the different sectors. These inventories project that NO<sub>x</sub> and VOC emissions will continue to decrease in future years. This analysis shows that Sheboygan County is expected to maintain the air quality standard for more than ten years into the future.

**Table 4.1. Sheboygan County comparison of NOx emissions (tpsd) by source type.**

<b>Sector</b>	<b>2011 nonattainment year</b>	<b>2014 attainment year</b>	<b>2020 interim year</b>	<b>2030 maintenance year</b>
Point - EGU	13.64	6.84	2.55	2.55
Point - Non-EGU	1.19	1.22	1.41	1.45
Area	1.32	1.32	1.31	1.31
Onroad	5.37	3.80	2.42	1.19
Nonroad	3.96	3.33	2.47	1.94
<b>TOTAL</b>	<b>25.49</b>	<b>16.51</b>	<b>10.15</b>	<b>8.43</b>
Change from 2014 (% change)	-	-	-6.35 (-38%)	-8.08 (-49%)

**Table 4.2. Sheboygan County comparison of VOC emissions (tpsd) by source type.**

<b>Sector</b>	<b>2011 nonattainment year</b>	<b>2014 attainment year</b>	<b>2020 interim year</b>	<b>2030 maintenance year</b>
Point - EGU	0.99	0.97	0.42	0.42
Point - Non-EGU	1.81	1.77	2.20	2.36
Area	6.17	6.14	5.98	5.59
Onroad	2.44	1.71	1.26	0.65
Nonroad	3.29	2.72	2.01	1.82
<b>TOTAL</b>	<b>14.69</b>	<b>13.31</b>	<b>11.86</b>	<b>10.85</b>
Change from 2014 (% change)	-	-	-1.45 (-11%)	-2.47 (-19%)

#### 4.4. Projected Emission Trends

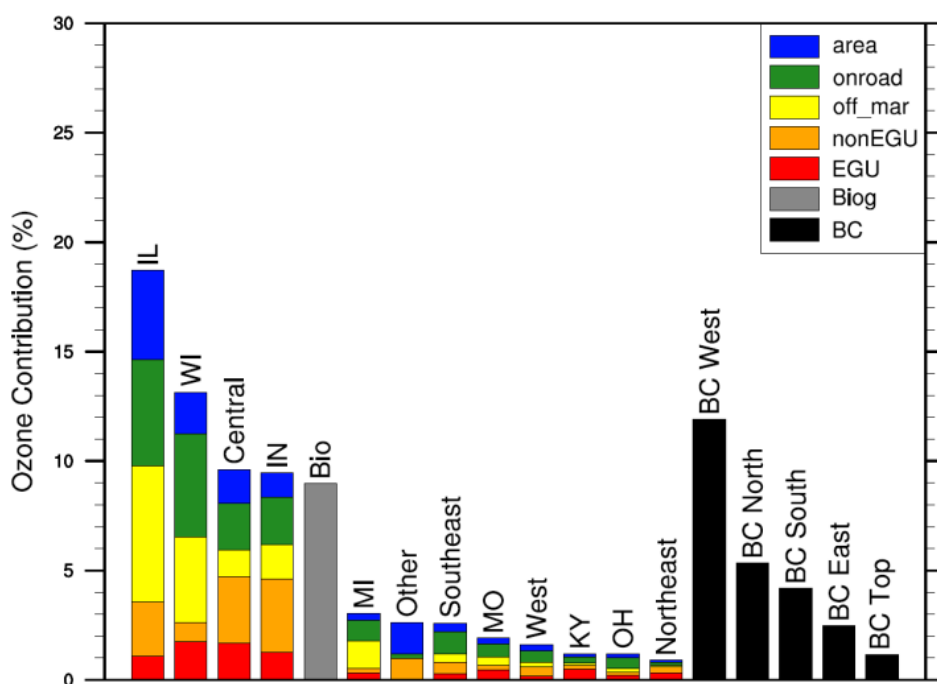
Emission trends are an important gauge for continued compliance of the ozone standard. WDNR compared actual emissions from 2014 to projected emissions from the interim year (2020) and the maintenance year (2030) for Sheboygan County. Total NOx emissions in Sheboygan County are projected to decrease by approximately 49% (8.08 tpsd) from 2014 to 2030 (Table 4.1). The largest reductions are projected from the EGU point sector (4.29 tpsd) due to the planned retirement of a coal-fired unit at the Edgewater power plant, followed by the onroad mobile sector (2.61 tpsd) and the nonroad mobile sector (1.39 tpsd), due to ongoing implementation of the federal and state mobile source control programs detailed in Section 6.3. VOC emissions are projected to decrease in Sheboygan County by approximately 19% (or 2.47 tpsd) during the 16-year period (Table 4.2). The largest VOC reductions are projected from the onroad mobile sector (1.06 tpsd) followed by the nonroad mobile sector (0.90 tpsd). These reductions help counter projected emissions increases from the non-EGU point source sector (0.59 tpsd) due to

anticipated increases in energy consumption by existing point sources and emissions from new and modified point sources.

#### 4.5. Trends in Emissions from Upwind Areas

NO<sub>x</sub> and VOC emissions from out-of-state sources located to the south are the largest contributors to ozone at the Sheboygan Haven monitor (Figure 4.1). This is true despite the fact that ozone at this monitor has been shown to be less heavily impacted by over-lake transport from the south relative to the Kohler Andrae monitor.<sup>7</sup> Figure 4.1 shows that emissions sources in Wisconsin contributed only about 13% to concentrations at this monitor. Reductions in emissions from upwind areas are therefore likely to have a greater impact on ozone concentrations at the Sheboygan Haven monitor than are those from Wisconsin sources, including those in Sheboygan County. Accordingly, the trends in NO<sub>x</sub> and VOC emissions in the upwind Chicago metro area are examined below.

**Figure 4.1. Ozone source apportionment modeling from the Lake Michigan Air Directors Consortium (LADCO) for the Sheboygan Haven monitor.<sup>8</sup>** Colors correspond to emission source categories.



<sup>7</sup> Both Sheboygan County monitors record high ozone concentrations almost exclusively with southerly winds that travel over Lake Michigan. For more information, see: Supplemental Information for 2015 Ozone National Ambient Air Quality Standard (NAAQS) Area Designations, submittal from WDNR to EPA on April 20, 2017. <http://dnr.wi.gov/topic/AirQuality/documents/OzoneTSD20170420.pdf>

<sup>8</sup> The Central region includes MN, IA, NE, KS, OK, TX, AR and LA. The Southeast region includes MS, AL, GA, FL, TN, VA, NC and SC. The West region includes WA, OR, CA, NV, ID, MT, WY, UT, CO, AZ, NM, ND and SD. The Northeast region includes ME, NH, VT, MA, RI, CT, NY, NJ, PA, DE, MD, and WV. BC refers to “boundary conditions” which are contributions from outside the U.S. “Bio” and “Biog” are biogenic emissions. “Off\_mar” are nonroad emissions.

Table 4.3 shows the NO<sub>x</sub> and VOC emissions from sources in the Chicago nonattainment area, which includes all or part of eight counties in Illinois, two counties in Indiana, and eastern Kenosha County in Wisconsin. Other parts of these states also likely contribute to ozone in Sheboygan County. Chicago area emissions were approximately 40 times larger than those from Sheboygan County in 2014, and Chicago is located directly upwind from Sheboygan County on high ozone days. It is therefore important to consider trends in Chicago area emissions.

NO<sub>x</sub> emissions from Chicago sources decreased by 18%, and VOC emissions decreased by 13% from 2011 to 2014. These substantial reductions in ozone precursor emissions upwind of Sheboygan County likely helped reduce ozone concentrations in the area. Chicago emissions are projected to continue to decrease through 2030, with projected reductions in NO<sub>x</sub> emissions of 40% and in VOC emissions of 20% relative to 2014 emissions. These continued reductions in upwind emissions from important contributor states will help assure maintenance of the 2008 ozone NAAQS at the Sheboygan Haven monitor.

**Table 4.3. Emissions from the upwind Chicago nonattainment area (tpsd).<sup>9</sup>**

	<b>2011</b>	<b>2014</b>	<b>2020</b>	<b>2030</b>
<i>NO<sub>x</sub> Emissions</i>				
Chicago – Illinois	614.35	504.86	345.98	280.27
Chicago – Indiana	151.80	120.06	102.32	88.49
Chicago – Wisconsin	19.11	17.52	15.73	14.55
<b>Chicago - Total</b>	<b>785.25</b>	<b>642.44</b>	<b>464.01</b>	<b>383.28</b>
<i>VOC Emissions</i>				
Chicago – Illinois	517.98	443.85	380.24	361.26
Chicago – Indiana	61.77	58.49	48.06	41.83
Chicago – Wisconsin	9.30	8.32	8.20	7.97
<b>Chicago - Total</b>	<b>588.85</b>	<b>510.66</b>	<b>436.28</b>	<b>410.85</b>

<sup>9</sup> Illinois and Indiana submitted inventory data for the years of 2011, 2014, 2020 and 2030 to WDNR on Feb. 29, 2016 and April 1, 2016, respectively. These emission inventories were developed in support of attainment plans for the three-state Chicago nonattainment area.

## **5. TRANSPORTATION CONFORMITY BUDGETS**

Transportation conformity is required under CAA section 176 (c) (42 U.S.C 7506(c)) to ensure that federally funded or approved highway and transit activities are consistent with (“conform to”) the purpose of the SIP. “Conform to” the purpose of the SIP means that transportation activities will not cause or contribute to new air quality violations, worsen existing violations, or delay timely attainment of the relevant NAAQS or any interim milestones. Transportation conformity applies to designated nonattainment and maintenance areas for transportation-related criteria pollutants: ozone, fine particles (PM<sub>2.5</sub>), coarse particles (PM<sub>10</sub>), carbon monoxide, and nitrogen dioxide. EPA’s transportation conformity rule (40 CFR Parts 51 and 93) establishes the criteria and procedures for determining whether metropolitan transportation plans, metropolitan transportation improvement programs, federally supported highways projects, and federally supported transit projects conform to the SIP.

Sheboygan County currently demonstrates transportation conformity using the “Motor Vehicle Emissions Budget (MVEB) Test” (40 CFR 93.119). EPA requirements outlined in 40 CFR 93.118(e) (4) stipulate that MVEBs for NO<sub>x</sub> and VOC are established as part of a control strategy implementation plan revision or maintenance plan. MVEBs are necessary to demonstrate conformance of transportation plans and improvement programs with the SIP.

### **5.1. Motor Vehicle Emissions Model**

The MVEBs are developed using EPA’s MOVES2014a model and a travel demand model. The MOVES2014a model is used to derive estimates of hot summer day emissions for ozone precursors of NO<sub>x</sub> and VOCs. Numerous variables can affect these emissions, especially the size of the vehicle fleet (the number of vehicles on the road), the fleet’s age, the distribution of vehicle types, and the vehicle miles of travel. The transportation information is derived from the travel demand model. Appendix 8 contains key data used to develop inputs to MOVES2014a.<sup>10</sup>

### **5.2. Motor Vehicle Emissions Budgets**

WDNR submitted an early progress SIP with updated MVEBs for the Sheboygan County nonattainment area on January 16, 2015. On April 1, 2015, EPA found the MVEBs for Wisconsin’s 8-hour ozone nonattainment area were adequate for use in transportation conformity determinations (80 FR 17428).

WDNR has subsequently submitted MVEBs for the Sheboygan County 2008 ozone NAAQS maintenance area for the years 2020 and 2030. Once EPA determines that the budgets meet the adequacy criteria of the transportation conformity rule, the budgets will replace the MVEBs established for the 2008 ozone early progress plan (80 FR 17428).

Table 5.1 contains the MVEBs for the Sheboygan County 2008 ozone NAAQS maintenance area for the years 2020 and 2030. It is necessary for the budgets to include a margin of safety that accounts for uncertainties in future mobile source emissions. 40 CFR 93.101 defines safety

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<sup>10</sup> The complete set of inputs to MOVES2014a is too lengthy to include in this document. However, electronic copies of the inputs can be obtained from WDNR by sending an email to [christopher.bovey@wisconsin.gov](mailto:christopher.bovey@wisconsin.gov) or by phone at (608) 266-5542.

margin as the amount by which the total projected emissions from all sources of a given pollutant are less than the total emissions that would satisfy the applicable requirement for RFP, attainment, or maintenance. WDNR increased the on-road mobile source portions of the 2020 and 2030 projected emissions inventories by 15% for Sheboygan County to include an appropriate margin of safety.

**Table 5.1. Motor vehicle emissions budgets (MVEBs) for Sheboygan County for 2020 and 2030.**

Year	Emissions (tons per hot summer day)	
	VOC	NO <sub>x</sub>
2020	1.26	2.42
2030	0.65	1.19

## 6. PERMANENT AND ENFORCEABLE CONTROL MEASURES

The CAA Section 107(d)(3)(E)(iv) specifies that improvements in air quality must be due to permanent and enforceable emission reductions. This section outlines the permanent and enforceable control measures that applied to sources in Sheboygan County. These control measures significantly reduced emissions in Sheboygan County (and contributing transport regions) by the 2014 attainment year, leading to the emission reductions shown in Section 4. These control programs are described in greater detail in Appendix 9.

Table 6.1 lists the permanent and enforceable emission control programs implemented for each emission source sector. Many of the control measures have been implemented under long-standing programs that began prior to 2011. Because a focus of this CAA requirement is to show that emission reductions occurred between 2011 (the base nonattainment year) and 2014 (the attainment year), this discussion highlights those control measures or a characterization of emission reductions that have occurred since 2011.

**Table 6.1. Emission control programs that have reduced NO<sub>x</sub> and VOC emissions in Sheboygan County and in contributing regions.** See Appendix 9 for more details.

Sector	NO <sub>x</sub> Control Measures	VOC Control Measures
Point	-Consent Decree for Edgewater EGU -Wisconsin NO <sub>x</sub> RACT -Federal NO <sub>x</sub> Transport Rules	-VOC RACT / CTGs -Federal NESHAP Rules
Area		-VOC RACT / CTGs -Federal VOC emission standards for consumer/commercial products -Area source NESHAP Rules
Onroad	-Numerous federal onroad mobile source control programs (see Appendix 9) -Wisconsin I/M program	
Nonroad	-Numerous federal nonroad mobile source control programs (see Appendix 9)	

It is important to note that: (1) emissions sources located in Sheboygan County are already very well-controlled in all respects; and (2) most of the ozone measured in Sheboygan comes from ozone and ozone precursors originating in upwind states. For these reasons, even though pollution control programs continue to decrease emissions within Sheboygan County, emission reductions in upwind areas will have a greater impact on the county's air quality.

### 6.1. Point Source Control Measures

Wisconsin implemented RACT for major NO<sub>x</sub> sources (sources with a potential to emit of 100 tons or greater per year) in the Wisconsin nonattainment area for the 1997 ozone NAAQS. This area included all of Sheboygan County. The Edgewater EGU, which accounted for approximately 78% of point source NO<sub>x</sub> emissions in Sheboygan County during 2014, has been subject to NO<sub>x</sub> emissions limitations under the NO<sub>x</sub> RACT program since 2009 and under a consent decree since 2013. As a result of these permanent and enforceable measures, Edgewater's coal-fired boilers were either retired or are currently operating under emission



limitations,<sup>11</sup> and the facility's NOx emissions were cut in half between 2011 and 2014 (see Appendix 9).

EGUs in 22 states east of the Mississippi, including Wisconsin, have been subject to a series of federal NOx transport rules since 2009. These rules have included the Clean Air Interstate Rule (CAIR), CSAPR and the CSAPR Update Rule. These rules contributed to a 24% reduction in total EGU NOx emissions across these states from 2008 to 2014. Emission reductions were proportionately larger, ranging from 24% to 54.4%, for the three states contributing the most to Sheboygan County ozone concentrations: Illinois, Indiana, and Wisconsin.

Wisconsin implemented VOC RACT to fulfill control technology guideline (CTG) requirements for the Wisconsin nonattainment area under the 1997 ozone NAAQS. This area included Sheboygan County. The list of the CTGs in place in Wisconsin are provided in Appendix 10. Non-combustion sources accounted for 86% of point source VOC emissions in Sheboygan County in 2014. These sources are subject to source-specific National Emission Standards for Hazardous Air Pollutant (NESHAP) requirements and/or VOC RACT/CTG rules, as applicable. The non-combustion NESHAP rules were implemented prior to 2011 with no additional reductions expected after 2011, however. The combustion point sources are subject to NESHAP rules that became effective since 2011. These NESHAP rules also apply to sources nationally, thereby reducing the transport of VOC emissions into the nonattainment area.

See Section 1 of Appendix 9 for more information about all of these federally enforceable control programs.

## **6.2. Area Source Control Measures**

Wisconsin has implemented a number of VOC RACT/CTG rules limiting VOC emissions from area sources. These rules are listed in Appendix 10. In addition, VOC emission standards for consumer and commercial products also limited VOC emissions from area sources, as did NESHAPs for gasoline distribution (Stage I vapor recovery requirements) and Area Source Industrial, Commercial and Institutional Boilers. See Section 2 of Appendix 9 for more information about all of these federally enforceable control programs.

## **6.3. Onroad Source Control Measures**

Both NOx and VOC emissions from on-road mobile sources are substantially controlled through federal emission standard programs for new vehicles and fuel standards. Although initial compliance dates in many cases were prior to 2011, these regulations have continued to reduce area-wide emissions as fleets turn over to newer vehicles. All of these programs apply nationally and have reduced emissions both within the nonattainment area and in contributing ozone precursor transport areas. Wisconsin's vehicle I/M program also limits on-road VOC and NOx emissions in Sheboygan County. See Section 3 of Appendix 9 for more information about these federally enforceable control programs.

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<sup>11</sup> Between 2008 and 2014, Edgewater installed selective catalytic and non-catalytic reduction control systems, completed combustion control projects and ceased operation of one unit.

#### **6.4. Nonroad Source Control Measures**

VOC and NO<sub>x</sub> emitted by nonroad mobile sources are significantly controlled via a number of different federal standards for new engines and fuels. The nonroad regulations continue to slowly lower average unit and total sector emissions as equipment fleets are replaced each year, pulling the highest emitting equipment out of circulation or substantially reducing its use. Fuel programs regulating fuel sulfur content also enable achievement of various new engine tier VOC and NO<sub>x</sub> emission limits. See Section 4 of Appendix 9 for more information about these federally enforceable control programs

#### **6.5. Section 110(l) Noninterference Requirements**

When revising rules and regulations in the SIP, the state is responsible for demonstrating that such a change will not interfere with attainment of the NAAQS, Rate of Progress (ROP), or other applicable CAA requirements for any of the criteria pollutants. This request for redesignation does not implement any changes in the control programs or requirements approved in the SIP and in place during the 2014 attainment year. Therefore, all requirements related to section 110(l) noninterference are fulfilled under this request. Further, Wisconsin will continue to implement all control programs currently in the SIP for emissions of ozone precursors from Sheboygan County, Wisconsin. As documented in Wisconsin's I-SIP for the 2008 ozone NAAQS (Appendix 1), the WDNR has the legal authority and necessary resources to actively enforce any violations of its rules or permit provisions. Removal of any control program from the SIP will be subject to a public hearing process, a demonstration of noninterference, and approval by EPA.

#### **6.6. Permanent and Enforceable Control Measures in Upwind Areas**

The largest sources of ozone in Sheboygan County are emissions from upwind areas such as Chicago, as shown in Section 4.5. Many of the same permanent and enforceable control measures apply to the Chicago area as are described for Sheboygan County.<sup>12</sup>

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<sup>12</sup> Indiana described the relevant control measures in a 2016 redesignation request for Lake and Porter Counties: <https://www.in.gov/idem/airquality/2397.htm>. Illinois has not recently described the measures applicable to the Illinois portion of the Chicago area, but many of the same measures described by Wisconsin and Indiana nonattainment areas also apply to Illinois's Chicago nonattainment area.

## **7. MAINTENANCE PLAN FOR SHEBOYGAN COUNTY**

Section 175A of the CAA sets forth the elements of a maintenance plan for areas seeking redesignation from nonattainment to attainment. The plan must demonstrate continued attainment of the applicable NAAQS for at least 10 years after EPA approves a redesignation to attainment. Eight years after the redesignation, the state must submit a revised maintenance plan, which demonstrates attainment for the 10 years following the initial 10-year period.

Based on certified data, the Sheboygan Haven monitor exhibited attainment air quality based on the 2014-2016 design values (Section 3). Comparison of nonattainment (2011) and attainment (2014) year inventories showed that attainment of the NAAQS was accompanied by significant reductions in ozone precursor emissions from the nonattainment area (Section 4). These emissions reductions were due to permanent and enforceable measures, many of which will further reduce emissions during the maintenance period (Section 6). In this section, maintenance of the attainment status in the Sheboygan County nonattainment area is demonstrated via reported and projected summer day emissions provided on a sector-specific basis that show continued reductions in emissions during maintenance years. This section also includes contingency measures and commitments to continue monitoring and to revise this maintenance plan.

### **7.1. Demonstration of Maintenance via Comparison of Attainment and Maintenance Emissions Inventories**

Maintenance emission inventory projections are described in Section 4 and summarized in Tables 7.1 and 7.2. 2014 was chosen as the representative attainment year inventory because of the availability of National Emissions Inventory (NEI) data for this year.<sup>13</sup> 2020 and 2030 were chosen as interim and final maintenance years because their status as transportation planning years ensures the availability of robust transportation projections for these years.

The forecast maintenance inventories for 2020 and 2030 demonstrate that emissions of NO<sub>x</sub> and VOCs are projected to decrease in future years relative to the 2014 attainment year for the Sheboygan nonattainment area (Tables 7.1 and 7.2). Total emissions affecting ozone concentrations from the nonattainment area are projected to decrease 49% for NO<sub>x</sub> and 19% for VOC from 2014 to 2030. Since the monitor attained the standard in 2014-2016 and emissions are projected to decrease through 2030, this inventory analysis demonstrates that the Sheboygan County nonattainment area is expected to maintain the 2008 NAAQS for more than ten years into the future.

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<sup>13</sup> EPA guidance for redesignation inventories provides the flexibility to use any one of the three years contained in the attainment design value provided emissions from the season selected are found representative in terms of economic conditions, key sector emissions characteristics and weather/ozone conduciveness conditions. 2014 is the first year in the attainment design value (2014-2016) and also meets the other conditions. This year therefore forms a reasonable basis for assessing the “real and permanent” nature of attainment as required by the Act.

**Table 7.1. NO<sub>x</sub> emissions in the Sheboygan County ozone nonattainment area.**

	Total NO <sub>x</sub> emissions (tons per summer day)			
	2014 attainment year	2020 interim year	2030 maintenance year	Net Change (2014-20130)
Point	8.06	3.96	4.00	-4.07 (-50%)
Area	1.32	1.31	1.31	-0.01 (0%)
Onroad	3.80	2.42	1.19	-2.61 (-69%)
Nonroad	3.33	2.47	1.94	-1.39 (-42%)
<b>Total</b>	<b>16.51</b>	<b>10.15</b>	<b>8.43</b>	<b>-8.08 (-49%)</b>

**Table 7.2. VOC emissions in the Sheboygan County ozone nonattainment area.**

	Total VOC emissions (tons per summer day)			
	2014 attainment year	2020 interim year	2030 maintenance year	Net Change (2014-20130)
Point	2.74	2.63	2.79	0.04 (2%)
Area	6.14	5.98	5.59	-0.55 (-9%)
Onroad	1.71	1.26	0.65	-1.06 (-62%)
Nonroad	2.72	2.01	1.82	-0.90 (-33%)
<b>Total</b>	<b>13.32</b>	<b>11.86</b>	<b>10.85</b>	<b>-2.47 (-19%)</b>

## 7.2. Verification of Continued Attainment

Per EPA's redesignation request guidance<sup>2</sup>, WDNR will verify continued attainment of the 2008 8-hour ozone NAAQS in Sheboygan County during the maintenance period via continued ozone monitoring. WDNR commits to continue monitoring ozone levels in the Sheboygan area and will discuss any changes in siting that may become necessary with EPA Region 5 staff. WDNR will continue to quality assure the monitoring data to meet the requirements of 40 CFR 58 and will enter all data into AQS on a timely basis in accordance with federal guidelines. Ozone concentration data will continue to be available on the WDNR website<sup>14</sup>, providing real-time data and information about any NAAQS exceedances to the public.

In addition, ozone precursor inventories will be prepared for 2017, 2020, 2029, and 2032 as part of the CAA-required NEI program. These inventories will be compared with the 2014 attainment year inventory and projected 2020 interim and 2030 maintenance year inventories to assess emissions trends, as necessary, to assure continued attainment of the 2008 ozone NAAQS.

<sup>14</sup> Select "View Wisconsin's current air quality" from the webpage <http://dnr.wi.gov/topic/AirQuality>.

### 7.3. Maintenance Contingent Response Plan

EPA's Redesignation Guidance states that a state's "maintenance plan shall contain such contingency measures as the Administrator deems necessary to ensure prompt correction of any violation of the NAAQS." As part of Wisconsin's maintenance plan for the Sheboygan nonattainment area, Wisconsin commits to two separate levels of contingent response to any renewed exceedance and/or violation of the 2008 ozone NAAQS. The first step, a "warning level response", initiates a study to investigate whether the observed exceedance requires further evaluation or action to ensure maintenance going forward. The second step, an "action level response," would identify and implement any needed control measures necessary to ensure maintenance.

Wisconsin has an extremely limited ability to affect ozone concentrations in the Sheboygan nonattainment area due to the influence of emissions originating in upwind states. High ozone events at Sheboygan monitors occur almost exclusively when these sites are downwind of Chicago and other source areas to the south. Out-of-state sources of ozone overwhelm local sources at Sheboygan County monitors (Figure 4.1). As a consequence, additional controls on NO<sub>x</sub> and VOC emissions from Wisconsin are likely to have very little, if any, impact on ozone concentrations in the Sheboygan nonattainment area. When identifying additional controls for implementation, the state will have to consider the potential of those controls to reduce ozone concentrations at violating monitors in the nonattainment area.

Specifics of Wisconsin's contingency response are as follows:

#### Warning Level Response

A warning level response would be triggered if an annual (1-year) 4<sup>th</sup> high monitored concentration is above the level of the 2008 ozone NAAQS (0.075 ppm). A warning level response would initiate a study to determine whether the high ozone concentrations indicate a trend towards higher ozone levels and whether emissions are significantly higher than projected in the maintenance plan. The study would include the following elements:

- An assessment of whether actual emissions have deviated significantly from the emissions projections contained in this maintenance plan for the nonattainment area, along with an evaluation of which sectors and states are responsible for any emissions increases; and
- A study of whether unusual meteorological conditions during the high-ozone year led to the high monitored ozone concentrations.

Should it be determined through the warning level study that action is necessary to ensure maintenance, Wisconsin will follow the procedures for control selection and implementation outlined under the action level response below. Study findings will be completed no later than the beginning of the following summer ozone control period (May 1).

#### Action Level Response

An action level response would be triggered if a three-year design value exceeds the level of the 2008 ozone NAAQS (0.075 ppm). This response would follow a study to determine whether

additional control measures are needed to assure attainment and maintenance of the 2008 ozone NAAQS within the maintenance area. This analysis will examine the following factors for the entire maintenance area:

- The level, distribution, and severity of ambient ozone concentrations;
- The weather patterns contributing to ozone levels;
- Potential contributing emissions sources;
- The geographic applicability of possible contingency measures;
- Emission trends, including the impact of existing or forthcoming control measures that have not yet been implemented;
- Current and recently identified control technologies; and
- Air quality contributions from outside the maintenance area.

The selection of emission reduction measures to be implemented will be based upon their potential to reduce ozone concentrations at violating monitors in the nonattainment area, cost-effectiveness, emission reduction potential, economic and social considerations, ease and timing of implementation, and other appropriate factors. When considering these criteria, priority will be given to measures that can be in place within 18 months.

Potential additional control measures are listed below. Because it is not possible to determine what control measures, if any, will be appropriate at an unspecified time in the future, this list is neither comprehensive nor in priority order.

- Implementation of any state or federally promulgated rule regulating transport of ozone precursors.
- Updated federal NO<sub>x</sub> emission limits for heavy-duty vehicles.
- Updated (Phase 2) federal fuel efficiency standards for medium- and heavy-duty engines and vehicles.
- New federal regulations on the sale of aftermarket catalysts for vehicle catalytic converters.

Adoption of any additional control measures is subject to the necessary Wisconsin administrative, legal, and legislative processes. WDNR will solicit input from interested and affected parties in the area prior to selecting appropriate control measures. This process will include publication of notices, an opportunity for a public hearing, and other measures required by Wisconsin law.

#### **7.4. Commitment to Revise Maintenance Plan**

Wisconsin hereby commits to review its maintenance plan eight (8) years after redesignation, as required by Section 175(A) of the CAA. This revised SIP will provide for maintenance for an additional 10 years.

## 8. PUBLIC PARTICIPATION

In accordance with section 110(a)(2) of the CAA, the WDNR published a notice on the internet (<http://dnr.wi.gov/topic/AirQuality/Input.html>) on December 20, 2017 stating that it would hold a public hearing on this 2008 ozone NAAQS redesignation request for Sheboygan County. A notice of availability was also posted on this website. The public hearing took place on Monday, January 22, 2018 at 9:00 am in the State Natural Resources Building (101 S. Webster St., Madison, WI 53703) in room 513. The redesignation request was available for public comment through February 1, 2018.

The WDNR received two verbal comments at the public hearing and two written comments. Three of the comments were in support of this redesignation request and do not require further response.

The fourth comment was received from Wisconsin Power and Light (WPL) and requested changes to the characterization of NO<sub>x</sub> emissions at the Edgewater Generating Station. In response, WDNR:

- Made the requested changes to the description of past emission reductions at this facility.
- Reflected Edgewater Unit 4's 2018 retirement in future projections.
- Adjusted the projected maximum summer day heat input for Edgewater Unit 5 after 2018 to be more conservative.

Taken together, these changes decrease the projected emissions from the Edgewater facility, which does not affect any conclusions associated with the redesignation request or maintenance plan.

WDNR did not change the NO<sub>x</sub> emission rate used to project emissions from Unit 5, as was requested by WPL. WDNR has traditionally used demonstrated annual average NO<sub>x</sub> emission rates to project emissions in SIP inventories. If WDNR was to assume a higher NO<sub>x</sub> emission rate closer to the permit limit (0.080 lbs/mmBtu) when projecting emissions, to be consistent WDNR also would need to use a demonstrated NO<sub>x</sub> emission rate closer to the NO<sub>x</sub> limit for the 2011 and 2014 inventories. Since the relative reductions between historical and projected emissions would not meaningfully change, in order to be consistent with past practice and previously approved SIP inventories, WDNR did not make this methodological change. However, as stated in Appendix 4, the projected NO<sub>x</sub> emissions do not constitute enforceable emission limitations on the power plant.

No additional changes in response to comments were necessary.

## **9. CONCLUSIONS**

Air quality measured at the Sheboygan Haven monitor in Sheboygan County, Wisconsin has attained the 2008 ozone NAAQS. In addition, as described within this document, applicable provisions of the CAA regarding redesignation to attainment have been met. Therefore, WDNR, on behalf of the State of Wisconsin, hereby requests that EPA redesignate Sheboygan County from nonattainment to attainment for the 2008 ozone NAAQS.



## **APPENDIX 1**

### **Wisconsin's Infrastructure SIP for the 2008 Ozone NAAQS**

This appendix includes:

1. Wisconsin Nitrogen Dioxide (NO<sub>2</sub>), Ozone (O<sub>3</sub>), and Sulfur Dioxide (SO<sub>2</sub>) Infrastructure State Implementation Plan (SIP), submitted to U.S. EPA on June 20, 2013.....2
2. June 20, 2013 Infrastructure SIP Submission Clarification, submitted to U.S. EPA on January 28, 2015.....9
3. Air Plan Approval; Wisconsin; Infrastructure SIP Requirements for the 2008 Ozone, 2010 NO<sub>2</sub>, and 2010 SO<sub>2</sub> NAAQS, published by U.S. EPA in the Federal Register, September 11, 2015 (80 FR 54725).....10
4. Approval and Promulgation of Air Quality Implementation Plans; Wisconsin; Revisions to PSD and NNSR Programs, published by U.S. EPA in the Federal Register, October 6, 2014 (79 FR 60064).....14
5. Air Plan Approval; Wisconsin; Wisconsin State Board Requirements, published by U.S. EPA in the Federal Register, January 21, 2016 (81 FR 3334).....16
6. Wisconsin State Implementation Plan (SIP) Revision – PM<sub>2.5</sub> Increment and Various PSD Program Changes, submitted to U.S. EPA on February 8, 2016.....19
7. Air Plan Approval; Wisconsin; NO<sub>x</sub> as a Precursor to Ozone, PM<sub>2.5</sub> Increment Rules and PSD Infrastructure SIP Requirements, February 7, 2017 (82 FR 9515).....22

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June 20, 2013

Ms. Susan Hedman  
Regional Administrator - R19J  
U.S. Environmental Protection Agency (EPA) - Region 5  
77 W. Jackson Blvd.  
Chicago IL 60604

Subject: Wisconsin Nitrogen Dioxide (NO<sub>2</sub>), Ozone (O<sub>3</sub>), and Sulfur Dioxide (SO<sub>2</sub>) Infrastructure State Implementation Plan (SIP)

Dear Ms. Hedman:

The Wisconsin Department of Natural Resources (WDNR) hereby submits an infrastructure SIP for the 2008 O<sub>3</sub> and 2010 NO<sub>2</sub> and SO<sub>2</sub> National Ambient Air Quality Standards (NAAQS) in accordance with the requirements contained in Sections 110(a)(1) and 110(a)(2) of the Clean Air Act (CAA). This submittal describes the state's ability to implement, maintain, and enforce these NAAQS.

The WDNR has the legal authority under Wisconsin law to adopt and implement the requested SIP revisions. Section 285.11(6), *Wis. Stats.*, authorizes the WDNR to develop and revise a SIP for prevention, abatement, and control of air pollution. The WDNR conducted a public hearing on June 10, 2013 regarding this SIP submittal. A copy of the public hearing notice is included as an attachment. In addition, a summary of comments received during the WDNR's public comment process is included as an attachment.

In accordance with the April 6, 2011 McCabe Memo, one paper copy of the SIP documents is enclosed. In addition, an electronic copy of these documents is provided on an enclosed CD. If you have any questions regarding this submittal, please contact Joseph Hoch at (608) 267-7543 or Ralph Patterson at (608) 267-7546.

Sincerely,

Bart Sponseller, Director  
Bureau of Air Management

cc: Patrick Stevens – AD/8  
Joseph Hoch – AM/7  
Ralph Patterson – AM/7

George Czerniak – U.S. EPA Region V (A-18J)  
John Mooney – U.S. EPA Region V (A-18J)  
Douglas Aburano – U.S. EPA Region V (AR-18J)

**Attach:** Wisconsin's NO<sub>2</sub>, O<sub>3</sub>, and SO<sub>2</sub> Infrastructure SIP  
Infrastructure SIP public hearing notice  
Proof of publication for the public comment period and public hearing  
Summary and responses to public comments  
EPA Region V SIP Submittal Checklist

## **Wisconsin's Infrastructure State Implementation Plan (SIP) Elements for Nitrogen Dioxide (NO<sub>2</sub>), Ozone (O<sub>3</sub>), and Sulfur Dioxide (SO<sub>2</sub>)**

### **1. Section 110(a)(2)(A): Emission limits and other control measures**

*"Each such plan shall [...] include enforceable emission limitations and other control measures, means, or techniques (including economic incentives such as fees, marketable permits, and auctions of emissions rights), as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements of this chapter."*

The Wisconsin Department of Natural Resources (WDNR) continues to monitor, update, and implement revisions to Wisconsin's SIP as emission limits and/or other control measures are needed in order to meet National Ambient Air Quality Standards (NAAQS), including the 2008 O<sub>3</sub> NAAQS, 2010 NO<sub>2</sub> NAAQS, and 2010 SO<sub>2</sub> NAAQS. Authority for this effort is established under ss. 285.11 through 285.19, *Wis. Stats.* Authorities related to specific pollutants, including the establishment of ambient air quality standards and increments, identification of nonattainment areas, air resource allocations, and various performance and emissions standards, are contained in ss. 285.21 through 285.29, *Wis. Stats.*

### **2. Section 110(a)(2)(B): Ambient air quality monitoring/data system**

*"Each such plan shall [...] provide for establishment and operation of appropriate devices, methods, systems, and procedures necessary to*

*(i) monitor, compile, and analyze data on ambient air quality, and*

*(ii) upon request, make such data available to the Administrator."*

The WDNR continues to operate an extensive air monitoring network. The data is used after full quality assurance to determine compliance with the NAAQS.

Wisconsin's most recently adopted annual network plan for 2013 was approved by the United States Environmental Protection Agency (U.S. EPA) on October 31, 2012. All monitored data is submitted to the U.S. EPA's Air Quality System (AQS) in a timely manner in accordance with *40 CFR 51.320*. The WDNR continues to provide the U.S. EPA regional office notice of any planned changes to monitoring sites or to the network plan. In addition, the WDNR actively participated in the development of a five-year regional network assessment for U.S. EPA Region 5 States dated July 1, 2010. Authority for monitoring efforts exists under general air pollution duties in s. 285.11, *Wis. Stats.* Funding for Wisconsin's air monitoring network comes from a variety of sources, including from the U.S. EPA under its Section 103 and 105 grant programs supporting federal monitoring requirements specified in *40 CFR 58.10*.

### **3. Section 110(a)(2)(C): Programs for enforcement, PSD, and NSR**

*"Each such plan shall [...] include a program to provide for the enforcement of the measures described in subparagraph (A), and regulation of the modification and construction of any stationary source within the areas covered by the plan as necessary to assure that national ambient air quality standards are achieved, including a permit program as required in parts C and D of this subchapter."*

The WDNR Air Management and Environmental Enforcement Programs work together to ensure compliance with Air Management Program SIP provisions, administrative code, and permit requirements. Authority to enforce violations and to assess penalties is contained in ss. 285.83 and 285.87, *Wis. Stats.* The WDNR follows a stepped enforcement process to address violations. The

enforcement response ranges from issuance of a Letter of Inquiry (the state counterpart of a U.S. EPA 114 request) where additional information is needed to confirm or assess the significance of a violation, up through referral to the Wisconsin Department of Justice (DOJ) for civil or criminal enforcement as appropriate.

The Environmental Performance Partnership Agreement (EnPPA) between the Wisconsin Air Management Program and U.S. EPA Region 5 addresses implementation of the U.S. EPA's High Priority Violation (HPV) policy. The process for prosecution of violations is also addressed in an Air Management Program Compliance and Enforcement Memorandum of Understanding (MOU) between U.S. EPA Region 5 and the WDNR Air Management Program. Consistent with the provisions of this MOU, the two agencies conduct monthly compliance and enforcement conference calls to discuss program issues and specific cases.

The WDNR regulates modification and construction of stationary sources through its U.S. EPA approved nonattainment New Source Review (NSR), Prevention of Significant Deterioration (PSD), and Title V permits programs under s. 285.11, s. 285.13, s. 285.17, s. 285.19, and ss. 285.60 through 285.69, *Wis. Stats.* The WDNR collects revenue to support these permit programs through application of applicable fee requirements under s. 285.69, *Wis. Stats.*

On March 28, 2011, the WDNR transmitted a letter to the U.S. EPA clarifying that the infrastructure SIP before the U.S. EPA review at that time (with respect to the 1997 O<sub>3</sub> and 1997 fine particulate matter (PM<sub>2.5</sub>) NAAQS) only included PSD regulations that remained approved after the U.S. EPA issued the PSD SIP narrowing rule. Thus, the greenhouse gas (GHG) PSD permitting requirement in Wisconsin's infrastructure SIP submittal consisted of only that portion of the PSD SIP program that applies PSD permitting requirements to GHG emissions at or above the tailoring rule thresholds. The WDNR made a subsequent submittal on May 4, 2011, asking that revisions to the State's PSD program with respect to aligning the state threshold for GHG emitting sources with the federal threshold be incorporated into the SIP. Therefore, Wisconsin retains all necessary resources and authority to permit GHG emitting sources at the federal tailoring rule threshold.

4. Section 110(a)(2)(D)(i): Interstate transport provisions

*"Each such plan shall [...] contain adequate provisions:*

*(i) prohibiting, consistent with the provisions of this subchapter, any source or other type of emissions activity within the state from emitting any air pollutant in amounts which will-*

*(I) contribute significantly to nonattainment in, or*

*(II) interfere with maintenance by, any other state with respect to any such national primary or secondary ambient air quality standard, or interfere with measures required to be included in the applicable implementation plan for any other state under part C of this subchapter to prevent significant deterioration of air quality to protect visibility."*

The WDNR has adopted and implemented the various major programs related to interstate transport of pollution, as required by the U.S. EPA. The WDNR developed implementation programs in ch. NR 432, *Wis. Adm. Code*, in 2007, for the state portions of the Clean Air Interstate Rule (CAIR), to address interstate transport of O<sub>3</sub> and PM<sub>2.5</sub> precursor emissions. Emissions of NO<sub>2</sub> and SO<sub>2</sub> are addressed regionally as PM<sub>2.5</sub> precursors, as well as locally within the state as described in section 110(a)(2)(K).

When the U.S. EPA finalizes a replacement to CAIR, as required by the U.S. Court of Appeals for the D.C. Circuit, the WDNR has the authority to develop refined control requirements to address that forthcoming federal program – either by adopting a Federal Implementation Plan (FIP) directly or through development of an approvable substitute regulation embodying a more unique state program. In addition, as part of the U.S. Court of Appeals for the D.C. Circuit August 21, 2012 decision regarding the Cross State Air Pollution Rule (CSAPR), the U.S. EPA must first define “significant contribution” before requiring states to eliminate that contribution.

In August 2012, the U.S. EPA fully approved Wisconsin’s Regional Haze SIP, which satisfies the visibility protection requirements under 40 CFR Part 51 Subpart P. Wisconsin has entered into agreements and working relationships with the surrounding States of Illinois, Indiana, Michigan, Ohio and Minnesota through the Lake Michigan Air Directors Consortium (LADCO) to address a continuing assessment and control strategy program to ensure multi-state nonattainment areas meet required Clean Air Act (CAA) timelines. Together these regulations and cooperative agreements address CAA and U.S. EPA concerns over the interstate transport of emissions of regulated pollutants.

If needed, ss. 285.11, 285.13 and 285.15, *Wis. Stats.*, address circumstances where interstate transport reduction agreements between states are needed to resolve SIP development of cross-boundary nonattainment areas. As detailed in the section addressing Section 110(a)(2)(C), Wisconsin has adequate PSD and NSR regulations; these regulations satisfy all applicable elements of Section 110(a)(2)(D)(i), as well as those of Section 110(a)(2)(C).

5. Section 110(a)(2)(D)(ii): Interstate and International transport provisions

*“Each such plan shall [...] contain adequate provisions insuring compliance with the applicable requirements of sections 126 and 115 (relating to interstate and international pollution abatement).”*

Wisconsin’s Air Management Program contains adequate provisions to insure compliance with Section 126 of the CAA relating to interstate pollution abatement. Neighboring states and tribes are notified regarding new or modified sources. Additionally, Section 115 of the CAA relates to international pollution abatement. Wisconsin has no pending obligations under Section 115.

6. Section 110(a)(2)(E): Adequate personnel, funding, and authority

*“Each such plan shall [...] provide:*

*(i) necessary assurances that the State (or, except where the Administrator deems inappropriate, the general purpose local government or governments, or a regional agency designated by the State or general purpose local governments for such purpose) will have adequate personnel, funding, and authority under state (and, as appropriate, local) law to carry out such implementation plan (and is not prohibited by any provision of Federal or State law from carrying out such implementation plan or portion thereof),*

*(ii) requirements that the state comply with the requirements respecting State boards under section 128,*

*(iii) necessary assurances that, where the State has relied on a local or regional government agency, or instrumentality for the implementation of any plan provision, the State has responsibility for ensuring adequate implementation of such plan provision.”*

Funding and personnel for the WDNR is through the state’s biennial budget process. The WDNR Air Management Program has several funding sources, including program revenue (fees paid by

businesses), tax revenue, and grants (federal and state). There are separate accounts affiliated with the different funding sources to ensure the funding and related personnel are used for the intended purpose. The primary federal grant the Air Management Program receives is the Section 105 Air Pollution Control Grant. It is an annual grant that includes extensive review by the U.S. EPA. In addition, the WDNR and the U.S. EPA negotiate priorities and grant commitments under the EnPPA, which is a two year agreement itemizing performance measures and outcomes across the various funding sources and grants. Wisconsin's basic Air Management Program duties and authorities are ensured under s. 285.11, *Wis. Stats.*

As specified in the section addressing Section 110(a)(2)(C), the WDNR also retains both the legal authority and adequate personnel to permit GHG emitting sources at the appropriate federal tailoring threshold.

With respect to the requirements of Section 128, the WDNR notes that the Wisconsin Natural Resources Board (NRB) does not generally approve enforcement or permit orders. Therefore, only the second requirement of Section 128 applies to Wisconsin. Rules that apply to the Wisconsin NRB can be found in s. 15.34, *Wis. Stats.* Wisconsin Statute Chapter 19, "General Duties of Public Officials" contains provisions, specifically in s. 19.46, 19.47, and 19.48, *Wis. Stats.*, that address conflict of interest over public officials, which would include the NRB.

7. Section 110(a)(2)(F): Stationary source monitoring and reporting

*"each such plan shall [...] require, as may be prescribed by the Administrator:*

*(i) the installation, maintenance, and replacement of equipment, and the implementation of other necessary steps, by owners or operators of stationary sources to monitor emissions from such sources,*

*(ii) periodic reports on the nature and amounts of emissions and emissions-related data from such source*

*(iii) correlation of such reports by the state agency with any emission limitations or standards established pursuant to this chapter, which reports shall be available at reasonable times for public inspection."*

The WDNR requires regulated sources to monitor, keep records, and submit reports dependent on applicable requirements and the type of permit issued. Frequency and requirements for review are incorporated as part of chs. NR 438 and 439, *Wis. Adm. Code*. Emission reports are submitted to meet requirements in our emission statement SIP. Wisconsin has a web-based monitoring, reporting, permits and compliance database called the Wisconsin Air Resource Program (WARP) that substantially strengthens the integrity of each of its component units. Basic authority for this effort is provided in s. 285.65, *Wis. Stats.* Public inspection of reports is available under Wisconsin's open records law contained in s. 19.35, *Wis. Stats.*

8. Section 110(a)(2)(G): Emergency episodes:

*"Each such plan shall provide for authority comparable to that in section 303 of this Title and adequate contingency plans to implement such authority,"*

Wisconsin Statute s. 285.85 requires the WDNR to act upon a finding that episode or emergency conditions exist. This language authorizes the WDNR to seek immediate injunctive relief in circumstances of substantial danger to the environment or to public health.

9. Section 110(a)(2)(H): Future SIP revisions

*“Each such plan shall [...] provide for revisions of such plan-*

*(i) from time to time as may be necessary to take account of revisions of such national primary or secondary ambient air quality standard or the availability of improved or expeditious methods of attaining such standard, and*

*(ii) except as provided in paragraph (3)(C), whenever the Administrator finds on the basis of information available to the Administrator that the plan is substantially inadequate to attain the national ambient air quality standard which it implements or to otherwise comply with any additional requirements established under this chapter (CAA).”*

Wisconsin Statute s. 285.11(6) provides the WDNR the authority to develop all rules, limits, and regulations necessary to meet NAAQS as they evolve and to respond to any U.S. EPA findings of inadequacy with the overall Wisconsin SIP and Air Management Programs.

10. Section 110(a)(2)(J): Consultation with government officials, public notification, PSD and visibility protection

*“Each such plan shall [...] meet the applicable requirements of section 121 of this Title (relating to consultation), section 127 of this Title (relating to public notification), and part C of this subchapter (relating to prevention of significant deterioration of air quality and visibility protection).”*

The WDNR follows an administrative process for public input and legislative review on non-rule SIP revisions for air quality control programs or measures. In addition, the WDNR follows an administrative process for public input, adoption by the Wisconsin NRB, and legislative review on rule SIP revisions for air quality control programs or measures. These processes ensure that potentially impacted public entities are identified and allowed to become engaged in the SIP development process. The WDNR Air Management Program has effectively used formal stakeholder structures in the development and refinement of all major SIP revisions. The WDNR is given the authority in s. 285.13(5), *Wis. Stats.*, to "advise, consult, contract and cooperate with other agencies of the state, local governments, industries, other states, interstate or inter-local agencies, and the federal government, and with interested persons or groups" during the entire SIP revision process and for other elements related to air management for which the WDNR is the officially-charged agency.

The WDNR maintains an active and fully-approved monitoring network for criteria pollutants. As provided for under s. 285.11, *Wis. Stats.*, public notice is provided at levels associated with the extent of the monitored problem ranging from an advisory to alert levels. The State of Wisconsin actively participates in development of regional air quality forecasts and the U.S. EPA's AIRNow air quality data outreach program. The WDNR maintains an active multi-media outreach effort through a variety of partners to ensure adequate public notice of air quality and to advise the public of actions to reduce immediate exposure and improve air quality. Public notification is provided through the Department's website and through a contracted e-mail subscription service known as "GovDelivery".

The WDNR's satisfaction of the PSD and visibility requirements of this section have been previously addressed in the section addressing 110(a)(2)(C) and 110(a)(2)(D) requirements. Insofar as those provisions satisfy the applicable requirements of those sections, the WDNR intends the same provisions to satisfy the applicable requirements of Section 110(a)(2)(J).

11. Section 110 (a)(2)(K): Air quality modeling/data

*“Each such plan shall [...] provide for-*

*(i) the performance of such air quality modeling as the administrator may prescribe for the purpose of predicting the effect on ambient air quality of any emissions of any pollutant for which the Administrator has established a national ambient air quality standard, and*

*(ii) the submission upon request, of data related to such air quality modeling to the Administrator.”*

The WDNR has the authority and capability to perform source-oriented dispersion modeling of all criteria pollutants – including NO<sub>2</sub>, O<sub>3</sub>, and SO<sub>2</sub> – using models such as AERMOD. The WDNR works with LADCO and the U.S. EPA to perform regional modeling of O<sub>3</sub> and PM<sub>2.5</sub> precursors – including NO<sub>2</sub> and SO<sub>2</sub> – from consistent emissions inventory and meteorology platforms. This regional modeling supports SIP development for Wisconsin, nearby nonattainment areas, addresses interstate pollutant transport quantification, and supports visibility impact assessments. The WDNR requires source-specific modeling for PSD-NSR assessment and permitting for the construction of major and some minor sources. These authorities reside under ss. 285.11, 285.13 and 285.60 - 285.69, *Wis. Stats.*

12. Section 110(a)(2)(L): permitting fees

*“Each such plan shall require the owner or operator of each major stationary source to pay to the permitting authority, as a condition of any permit required under this chapter, a fee sufficient to cover-*

*(i) the reasonable costs of reviewing and acting upon any application for such a permit, and*

*(ii) if the owner or operator receives a permit for such source, the reasonable costs of implementing and enforcing the terms and conditions of any such permit (not including any court costs or other costs associated with any enforcement action), until such fee requirement is superseded with respect to such sources by the Administrator’s approval of a fee program under subchapter Title V of this chapter.”*

Major stationary sources receive permits under Wisconsin’s Title 5 and NSR programs. The Title 5 program is funded by emission fees paid by sources and the level of funding is included in the State’s biennial budget process. The NSR program is funded by application and review fees that vary based on the type and complexity of the permit. The NSR program fees were revised effective January 1, 2011. Authority is established under s. 285.69, *Wis. Stats.*

13. Section 110(a)(2)(M): Consultation/participation by affected local entities

*“Each such plan shall [...] provide for consultation and participation by local political subdivisions affected by the plan.”*

Consultative authorities and responsibilities are noted in response to Section 110(a)(2)(J) requirements above regarding intergovernmental consultation. In addition, the WDNR follows formal public hearing processes in developing and adopting all formal SIP revisions that entail new or revised air pollution control programs or strategies. The WDNR actively engages potentially impacted stakeholders and other interested parties including local governmental entities. The WDNR is required to adopt all formal emission control programs and strategies as rules following the state’s formal regulatory processes of notice prior to adoption of rules. For any SIP revision not related to a single source, the WDNR is required to provide the standing committees of the Wisconsin State Legislature with jurisdiction over environmental matters, a 60-day review period, which effectively ensures local entities have been engaged in the program development process. The WDNR is obligated to respond to inquiries by the committee chairs within 15 days under s. 285.14, *Wis. Stats.*



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January 28, 2015

Ms Susan Hedman  
USEPA Region V  
77 West Jackson Boulevard  
Chicago IL 60604

Subject: June 20, 2013 Infrastructure SIP Submission Clarification

Dear Ms. Hedman:

This letter is clarifying our June 20, 2013 Infrastructure SIP submission for the 2008 ozone and 2010 NO2 and SO2 National Ambient Air Quality Standards (NAAQS).

Our authority under Chapters 227 and 285, Wis. Stats, to create new rules and implement existing emission limits and controls allow us to meet the requirements on 110(a)(2)(A). The authority for WDNR to develop rules and regulations is found in Sections 227.11(2)(a), 285.11(1), and 285.21(1)(a), Wis. Stats. Section 227.11(2)(a), Stats., expressly confers rule making authority to an agency. Section 285.11(1) and (6) requires the WDNR promulgate rules and establish control strategies in order to prepare and implement the State Implementation Plan (SIP) for the prevention, abatement and control of air pollution in the state. Section 285.21(1)(a) requires that the WDNR promulgate by rule ambient air quality standards that are similar to, but not more restrictive than the NAAQS.

The current Wisconsin administrative code contains existing controls and emission limits that addresses the NAAQS supplied in the June 20, 2013 Infrastructure SIP submission.

- 2008 ozone NAAQS- Chapters NR 419 through NR 425, Wis. Adm. Code, control VOC as an ozone precursor and Chapter NR 428, Wis. Adm. Code, control NOx as an ozone precursor.
- 2010 NO2 NAAQS- Chapter NR 428, Wis. Adm. Code contains the controls and emission limits for nitrogen dioxide control.
- 2010 SO2 NAAQS - Chapter NR 418, Wis. Adm. Code, contain the controls and emissions limits for sulfur dioxide control.

If you should have any questions regarding this letter, please feel free to contact Ralph Patterson of my staff at 608-267-7546.

Sincerely,

Bart Sponseller  
Director  
Bureau of Air Management

Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the rule does not have tribal implications and will not impose substantial direct costs on tribal governments or preempt tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000).

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this action and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a "major rule" as defined by 5 U.S.C. 804(2).

Under section 307(b)(1) of the CAA, petitions for judicial review of this

action must be filed in the United States Court of Appeals for the appropriate circuit by November 10, 2015. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. Parties with objections to this direct final rule are encouraged to file a comment in response to the parallel notice of proposed rulemaking for this action published in the proposed rules section of today's **Federal Register**, rather than file an immediate petition for judicial review of this direct final rule, so that EPA can withdraw this direct final rule and address the comment in the proposed rulemaking. This action may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2).)

#### List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Emissions Reporting, Incorporation by reference, Reporting

and recordkeeping requirements, Sulfur dioxide.

Dated: August 28, 2015.

**Susan Hedman,**

*Regional Administrator, Region 5.*

40 CFR part 52 is amended as follows:

#### PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

■ 1. The authority citation for part 52 continues to read as follows:

**Authority:** 42 U.S.C. 7401 *et seq.*

■ 2. Section 52.770, the table in paragraph (c) is amended by revising the entry for Rule 7–4.1–21 “Walsh and Kelly sulfur dioxide emission limitations” under the subheading entitled “Rule 4.1 Lake County Sulfur Dioxide Emission Limitations” under the heading entitled “Article 7. Sulfur Dioxide Rules” to read as follows:

#### § 52.770 Identification of plan.

\* \* \* \* \*

(c) \* \* \*

#### EPA-APPROVED INDIANA REGULATIONS

Indiana citation	Subject	Indiana effective date	EPA Approval date	Notes
* * *	* * *	* * *	* * *	* * *
<b>Article 7. Sulfur Dioxide Rules</b>				
* * *	* * *	* * *	* * *	* * *
<b>Rule 4.1 Lake County Sulfur Dioxide Emission Limitations</b>				
* * *	* * *	* * *	* * *	* * *
7–4.1–21 .....	Walsh and Kelly sulfur dioxide emission limitations ..	5/29/2015	9/11/2015, [insert <b>Federal Register</b> citation].	
* * *	* * *	* * *	* * *	* * *

\* \* \* \* \*

[FR Doc. 2015–22716 Filed 9–10–15; 8:45 am]

**BILLING CODE 6560–50–P**

#### ENVIRONMENTAL PROTECTION AGENCY

#### 40 CFR Part 52

[EPA–R05–OAR–2014–0704; FRL–9933–62–Region 5]

#### Air Plan Approval; Wisconsin; Infrastructure SIP Requirements for the 2008 Ozone, 2010 NO<sub>2</sub>, and 2010 SO<sub>2</sub> NAAQS

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule.

**SUMMARY:** The Environmental Protection Agency (EPA) is taking final action to approve some elements of state implementation plan (SIP) submissions from Wisconsin regarding the infrastructure requirements of section 110 of the Clean Air Act (CAA) for the 2008 ozone, 2010 nitrogen dioxide (NO<sub>2</sub>), and 2010 sulfur dioxide (SO<sub>2</sub>) National Ambient Air Quality Standards (NAAQS). The infrastructure requirements are designed to ensure that the structural components of each state's air quality management program are adequate to meet the state's responsibilities under the CAA. The

proposed rulemaking associated with this final action was published on April 20, 2015, and EPA received no comments during the comment period, which ended on May 20, 2015.

**DATES:** This final rule is effective on October 13, 2015.

**ADDRESSES:** EPA has established a docket for this action under Docket ID No. EPA-R05-OAR-2014-0704. All documents in the docket are listed on the [www.regulations.gov](http://www.regulations.gov) Web site. Although listed in the index, some information is not publicly available, e.g., Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through [www.regulations.gov](http://www.regulations.gov) or in hard copy at the Environmental Protection Agency, Region 5, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, Illinois 60604. This facility is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding Federal holidays. We recommend that you telephone Eric Svingen, Environmental Engineer, at (312) 353-4489 before visiting the Region 5 office.

**FOR FURTHER INFORMATION CONTACT:** Eric Svingen, Environmental Engineer, Attainment Planning and Maintenance Section, Air Programs Branch (AR-18J), Environmental Protection Agency, Region 5, 77 West Jackson Boulevard, Chicago, Illinois 60604, (312) 353-4489, [svingen.eric@epa.gov](mailto:svingen.eric@epa.gov).

**SUPPLEMENTARY INFORMATION:**

Throughout this document whenever “we,” “us,” or “our” is used, we mean EPA. This supplementary information section is arranged as follows:

- I. What is the background of these SIP submissions?
- II. What action is EPA taking?
- III. Statutory and Executive Order Reviews.

**I. What is the background of these SIP submissions?**

*A. What state submissions does this rulemaking address?*

This rulemaking addresses June 20, 2013, submissions and a January 28, 2015, clarification from the Wisconsin Department of Natural Resources (WDNR) intended to address all applicable infrastructure requirements for the 2008 ozone, 2010 NO<sub>2</sub>, and 2010 SO<sub>2</sub> NAAQS.

*B. Why did the state make these SIP submissions?*

Under section 110(a)(1) and (2) of the CAA, states are required to submit infrastructure SIPs to ensure that their SIPs provide for implementation, maintenance, and enforcement of the NAAQS, including the 2008 ozone, 2010 NO<sub>2</sub>, and 2010 SO<sub>2</sub> NAAQS. These submissions must contain any revisions needed for meeting the applicable SIP requirements of section 110(a)(2), or certifications that their existing SIPs for the NAAQS already meet those requirements.

EPA has highlighted this statutory requirement in multiple guidance documents. The most recent, entitled “Guidance on Infrastructure State Implementation Plan (SIP) Elements under CAA Sections 110(a)(1) and (2)”, was published on September 13, 2013.

*C. What is the scope of this rulemaking?*

EPA is acting upon the SIP submissions from Wisconsin that address the infrastructure requirements of CAA section 110(a)(1) and (2) for the 2008 ozone, 2010 NO<sub>2</sub>, and 2010 SO<sub>2</sub> NAAQS. The requirement for states to make SIP submissions of this type arises out of CAA section 110(a)(1), which states that states must make SIP submissions “within 3 years (or such shorter period as the Administrator may prescribe) after the promulgation of a national primary ambient air quality standard (or any revision thereof),” and these SIP submissions are to provide for the “implementation, maintenance, and enforcement” of such NAAQS. The statute directly imposes on states the duty to make these SIP submissions, and the requirement to make the submissions is not conditioned upon EPA’s taking any action other than promulgating a new or revised NAAQS. Section 110(a)(2) includes a list of specific elements that “[e]ach such plan” submission must address.

EPA has historically referred to these SIP submissions made for the purpose of satisfying the requirements of CAA section 110(a)(1) and (2) as “infrastructure SIP” submissions. Although the term “infrastructure SIP” does not appear in the CAA, EPA uses the term to distinguish this particular type of SIP submission from submissions that are intended to satisfy other SIP requirements under the CAA, such as SIP submissions that address the nonattainment planning requirements of part D and the

Prevention of Significant Deterioration (PSD) requirements of part C of title I of the CAA, and “regional haze SIP” submissions required to address the visibility protection requirements of CAA section 169A.

This rulemaking will not cover three substantive areas because they are not integral to acting on a state’s infrastructure SIP submissions: (i) Existing provisions related to excess emissions during periods of start-up, shutdown, or malfunction (“SSM”) at sources, that may be contrary to the CAA and EPA’s policies addressing such excess emissions; (ii) existing provisions related to “director’s variance” or “director’s discretion” that purport to permit revisions to SIP approved emissions limits with limited public notice or without requiring further approval by EPA, that may be contrary to the CAA; and, (iii) existing provisions for PSD programs that may be inconsistent with current requirements of EPA’s “Final NSR Improvement Rule,” 67 FR 80186 (December 31, 2002), as amended by 72 FR 32526 (June 13, 2007) (“NSR Reform”). Instead, EPA has the authority to address each one of these substantive areas in separate rulemakings. A detailed history, interpretation, and rationale as they relate to infrastructure SIP requirements can be found in EPA’s May 13, 2014, proposed rule entitled, “Infrastructure SIP Requirements for the 2008 Lead NAAQS” in the section, “What is the scope of this rulemaking?” (see 79 FR 27241 at 27242–27245).

**II. What action is EPA taking?**

EPA is taking final action to approve most elements of submissions from Wisconsin certifying that its current SIP is sufficient to meet the required infrastructure elements under section 110(a)(1) and (2) for the 2008 ozone, 2010 NO<sub>2</sub>, and 2010 SO<sub>2</sub> NAAQS.

The proposed rulemaking associated with this final action was published on April 20, 2015 (75 FR 21685), and EPA received no comments during the comment period, which ended on May 20, 2015. EPA is therefore taking final action to approve, as proposed, most elements of Wisconsin’s submissions.

EPA’s actions for the state’s satisfaction of infrastructure SIP requirements, by element of section 110(a)(2) and NAAQS, are contained in the table below.

Element	2008 Ozone	2010 NO <sub>2</sub>	2010 SO <sub>2</sub>
(A)—Emission limits and other control measures .....	A	A	A
(B)—Ambient air quality monitoring/data system .....	A	A	A
(C)1—Program for enforcement of control measures .....	A	A	A
(C)2—PSD .....	NA	NA	NA
(D)1—I Prong 1: Interstate transport—significant contribution .....	NA	A	NA
(D)2—I Prong 2: Interstate transport—interfere with maintenance .....	NA	A	NA
(D)3—II Prong 3: Interstate transport—prevention of significant deterioration .....	NA	NA	NA
(D)4—II Prong 4: Interstate transport—protect visibility .....	A	A	A
(D)5—Interstate and international pollution abatement .....	A	A	A
(E)1—Adequate resources .....	A	A	A
(E)2—State board requirements .....	NA	NA	NA
(F)—Stationary source monitoring system .....	A	A	A
(G)—Emergency power .....	A	A	A
(H)—Future SIP revisions .....	A	A	A
(I)—Nonattainment planning requirements of part D .....	NA	NA	NA
(J)1—Consultation with government officials .....	A	A	A
(J)2—Public notification .....	A	A	A
(J)3—PSD .....	NA	NA	NA
(J)4—Visibility protection .....	A	A	A
(K)—Air quality modeling/data .....	A	A	A
(L)—Permitting fees .....	A	A	A
(M)—Consultation and participation by affected local entities .....	A	A	A

In the above table, the key is as follows:

A .....	Approve.
NA .....	No Action/Separate Rule-making.

### III. Statutory and Executive Order Reviews

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the CAA and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the CAA. Accordingly, this action merely approves state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this action:

- Is not a significant regulatory action subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4);

- Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- Is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA; and
- Does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, the SIP is not approved to apply on any Indian reservation land or in any other area where EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the rule does not have tribal implications and will not impose substantial direct costs on tribal governments or preempt tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000).

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General

of the United States. EPA will submit a report containing this action and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a "major rule" as defined by 5 U.S.C. 804(2).

Under section 307(b)(1) of the CAA, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by November 10, 2015. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2).)

#### List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Ozone, Reporting and recordkeeping requirements, Sulfur oxides.

Dated: August 27, 2015.

**Susan Hedman**,  
Regional Administrator, Region 5.

40 CFR part 52 is amended as follows:

## PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

■ 1. The authority citation for part 52 continues to read as follows:

*Authority:* 42 U.S.C. 7401 *et seq.*

■ 2. Section 52.2591 is amended by adding paragraphs (g), (h), and (i) to read as follows:

### § 52.2591 Section 110(a)(2) infrastructure requirements.

\* \* \* \* \*

(g) Approval—In a June 20, 2013, submission with a January 28, 2015, clarification, Wisconsin certified that the state has satisfied the infrastructure SIP requirements of section 110(a)(2)(A) through (H), and (J) through (M) for the 2008 ozone NAAQS. We are not taking action on the prevention of significant deterioration requirements related to section 110(a)(2)(C), (D)(i)(II), and (J), the transport provisions in section 110(a)(2)(D)(i)(I), and the state board requirements of (E)(ii). We will address these requirements in a separate action.

(h) Approval—In a June 20, 2013, submission with a January 28, 2015, clarification, Wisconsin certified that the state has satisfied the infrastructure SIP requirements of section 110(a)(2)(A) through (H), and (J) through (M) for the 2010 nitrogen dioxide (NO<sub>2</sub>) NAAQS. We are not taking action on the prevention of significant deterioration requirements related to section 110(a)(2)(C), (D)(i)(II), and (J), and the state board requirements of (E)(ii). We will address these requirements in a separate action.

(i) Approval—In a June 20, 2013, submission with a January 28, 2015, clarification, Wisconsin certified that the state has satisfied the infrastructure SIP requirements of section 110(a)(2)(A) through (H), and (J) through (M) for the 2010 sulfur dioxide (SO<sub>2</sub>) NAAQS. We are not taking action on the prevention of significant deterioration requirements related to section 110(a)(2)(C), (D)(i)(II), and (J), the transport provisions in section 110(a)(2)(D)(i)(I), and the state board requirements of (E)(ii). We will address these requirements in a separate action.

[FR Doc. 2015-22864 Filed 9-10-15; 8:45 am]

BILLING CODE 6560-50-P

## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Part 63

[EPA-HQ-OAR-2011-0817; FRL-9933-76-OAR]

RIN 2060-AQ93

### National Emission Standards for Hazardous Air Pollutants for the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants; Correction

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule; correcting amendments.

**SUMMARY:** The Environmental Protection Agency (EPA) published a final rule in the **Federal Register** on July 27, 2015, titled National Emission Standards for Hazardous Air Pollutants for the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants. This final rule makes technical corrections and clarifications to the regulations published in that final rule. The rule also includes a provision describing performance testing requirements when a source demonstrates compliance with the hydrochloric acid (HCl) emissions standard using a continuous emissions monitoring system (CEMS) for sulfur dioxide measurement and reporting.

**DATES:** Effective September 9, 2015.

**FOR FURTHER INFORMATION CONTACT:** Ms. Sharon Nizich, Sector Policies and Programs Division (D243-04), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone number: (919) 541-2825; facsimile number: (919) 541-5450; email address: [nizich.sharon@epa.gov](mailto:nizich.sharon@epa.gov). For information about the applicability of the national emission standards for hazardous air pollutants or new source performance standards, contact Mr. Patrick Yellin, Monitoring, Assistance and Media Programs Division (2227A), Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, Washington, DC 20460; telephone number (202) 564-2970; email address [yellin.patrick@epa.gov](mailto:yellin.patrick@epa.gov).

#### SUPPLEMENTARY INFORMATION:

#### Summary of Technical Corrections

The EPA received communications from representatives of the Portland cement industry on five occasions in August 2015 (see memo to the docket (EPA-HQ-OAR-2011-0817) titled,

“Communications on Errors PCA August 2015”). These communications outlined several errors in the regulatory text of the final rule (80 FR 44772). These all pertain to monitoring requirements. The EPA agrees that these are errors (typographical and unintended phrasing or omissions), and is correcting these errors in this document. We are also removing two passages (which consisted of four sentences) that were inadvertently left in the final amendments, but were discussed by the EPA as being removed in the Response to Comment (RTC) document for the final amendments (see docket item EPA-HQ-OAR-2011-0817-0870, page 8). In the RTC, we discussed that data substitution is not an allowed practice when determining compliance, but these four sentences discuss procedures for data substitution. Leaving these sentences in the rule, thus, does not reflect the EPA’s stated intention, and would lead to confusion given the direct conflict between the RTC document and the rule text.

We are making one further technical correction involving timing of performance tests. The correction keeps in place the specified time by which performance tests must be conducted, but will no longer set out a window of time in which the test must be conducted. The net effect is that performance tests can be conducted earlier than the window of time in the current rule text if a source desires to conduct its performance test earlier. The EPA had already indicated in the RTC document that it was making this change (see docket item EPA-HQ-OAR-2011-0817-0870, page 5). The EPA regards this amendment as a clarification (the current rule could be interpreted to allow earlier testing) so that the rule reads precisely as intended, as stated by the EPA in the RTC document.

#### List of Subjects in 40 CFR Part 63

Environmental protection, Administrative practice and procedure, Air pollution control, Hazardous substances, Intergovernmental relations, Reporting and recordkeeping requirements.

For the reasons set out in the preamble, title 40, chapter I of the Code of Federal Regulations is amended as follows:

### PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

■ 1. The authority citation for part 63 continues to read as follows:

**ENVIRONMENTAL PROTECTION AGENCY****40 CFR Part 52**

[EPA-R05-OAR-2014-0242; FRL-9915-94-Region 5]

**Approval and Promulgation of Air Quality Implementation Plans; Wisconsin; Revisions to PSD and NNSR Programs****AGENCY:** Environmental Protection Agency (EPA).**ACTION:** Final rule.

**SUMMARY:** Pursuant to its authority under the Clean Air Act (CAA or Act), the Environmental Protection Agency (EPA) is approving a revision to the Wisconsin State Implementation Plan (SIP) for the Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NNSR) programs.

**DATES:** This final rule is effective on November 5, 2014.

**ADDRESSES:** EPA has established a docket for this action under Docket ID No. EPA-R05-OAR-2014-0242. All documents in the docket are listed on the [www.regulations.gov](http://www.regulations.gov) Web site. Although listed in the index, some information is not publicly available, i.e., Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through [www.regulations.gov](http://www.regulations.gov) or in hard copy at the Environmental Protection Agency, Region 5, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, Illinois 60604. This facility is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding Federal holidays. We recommend that you telephone Anthony Maietta, Life Scientist, at (312) 353-8777 before visiting the Region 5 office.

**FOR FURTHER INFORMATION CONTACT:** Anthony Maietta, Life Scientist, Control Strategies Section, Air Programs Branch (AR-18J), Environmental Protection Agency, Region 5, 77 West Jackson Boulevard, Chicago, Illinois 60604, (312) 353-8777, [maietta.anthony@epa.gov](mailto:maietta.anthony@epa.gov).

**SUPPLEMENTARY INFORMATION:**

Throughout this document whenever “we,” “us,” or “our” is used, we mean EPA. This supplementary information section is arranged as follows:

- I. What is the background for this action?
- II. Effective Date of Wisconsin’s Adopted Rule and Formal SIP Submission.

## III. What action is EPA taking?

## IV. Statutory and Executive Order Reviews.

**I. What is the background for this action?**

On March 12, 2014, the Wisconsin Department of Natural Resources (WDNR) submitted a request to EPA to revise portions of its PSD and NNSR programs. The submittal requested that EPA approve the following revised rules into Wisconsin’s SIP: (1) NR 400.02(123m) and (124); (2) NR 405.02(21)(b)5.a. and b. and 6; (3) NR 405.02(25i)(a); (4) NR 405.02(25i)(ag) and (ar)1–3; and (5) NR 408.02(20)(e) 5.a and b. and 6. On May 2, 2014, EPA published in the **Federal Register** (79 FR 25063) a proposal to take action on portions of the March 12, 2014, submittal that pertained to the definition of “major modification”, and explicitly identify oxides of nitrogen (NO<sub>x</sub>) as a precursor to ozone. Specifically, EPA’s May 2, 2014, proposed rulemaking was limited to the following provisions: (1) NR 405.02(21)(b)5.a. and b. and 6; (2) NR 405.02(25i)(a); (3) NR 405.02(25i)(ar)(intro) and 1.; and, (4) NR 408.02(20)(e) 5.a and b. and 6. The remainder of WDNR’s submission, as it relates to the identification of precursors to particulate matter of less than 2.5 micrometers (PM<sub>2.5</sub>), and the definition of PM<sub>2.5</sub> and particulate matter of less than 10 micrometers, will be addressed in a separate rulemaking.

Because the SIP revision was not effective at the state level at the time of the March 12, 2014, submittal, Wisconsin requested that EPA parallel process the SIP revision. EPA’s May 2, 2014, proposal was contingent upon both the effectiveness of amended rules at the state level and a formal, fully adopted SIP revision request.

**II. Effective Date of Wisconsin’s Adopted Rule and Formal SIP Submission**

On June 30, 2014, revisions to Wisconsin’s PSD and NNSR rules, as submitted in draft to EPA on March 12, 2014, were published in the Wisconsin Administrative Register, and became effective on July 1, 2014. On August 11, 2014, Wisconsin formally submitted its request for EPA to take final action on our May 2, 2014 proposal.

**III. What action is EPA taking?**

EPA is approving revisions to Wisconsin rules NR 405.02(21)(b)5.a. and b. and 6; NR 405.02(25i)(a); NR 405.02(25i)(ar)(intro) and 1.; and NR 408.02(20)(e) 5.a and b. and 6., as submitted by WDNR on August 11, 2014, into the Wisconsin SIP.

**IV. Statutory and Executive Order Reviews**

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the CAA and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA’s role is to approve state choices, provided that they meet the criteria of the CAA. Accordingly, this action merely approves state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this action:

- Is not a “significant regulatory action” subject to review by the Office of Management and Budget under Executive Order 12866 (58 FR 51735, October 4, 1993);
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4);
- Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- Is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA; and
- Does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, this rule does not have tribal implications as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), because the SIP is not approved to apply in Indian country located in the state, and EPA notes that it will not impose substantial direct costs on tribal governments or preempt tribal law.

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this action and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a “major rule” as defined by 5 U.S.C. 804(2).

Under section 307(b)(1) of the CAA, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by December 5, 2014. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2).)

#### List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Lead, Nitrogen oxides, Ozone, Reporting and recordkeeping requirements, Sulfur oxides.

Dated: August 19, 2014.

**Susan Hedman,**

*Regional Administrator, Region 5.*

40 CFR part 52 is amended as follows:

#### PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

■ 1. The authority citation for part 52 continues to read as follows:

**Authority:** 42 U.S.C. 7401 *et seq.*

■ 2. Section 52.2570 is amended by adding paragraph (c)(131) to read as follows:

##### § 52.2570 Identification of plan.

\* \* \* \* \*

(c) \* \* \*

(131) On August 11, 2014, the Wisconsin Department of Natural Resources submitted a request to revise Wisconsin's Prevention of Significant

Deterioration and Nonattainment New Source Review rules.

(i) Incorporation by reference.

(A) Wisconsin Administrative Code, NR 405.02(21)(b)5.a. and b. and 6; NR 405.02(25i)(a); NR 405.02(25i)(ar)(intro) and 1., as published in the Wisconsin Administrative Register July 2014, No. 703, effective August 1, 2014.

(B) Wisconsin Administrative Code, NR 408.02(20)(e) 5.a and b. and 6., as published in the Wisconsin Administrative Register July 2014, No. 703, effective August 1, 2014.

[FR Doc. 2014-23769 Filed 10-3-14; 8:45 am]

**BILLING CODE 6560-50-P**

#### ENVIRONMENTAL PROTECTION AGENCY

##### 40 CFR Part 52

[EPA-R05-OAR-2013-0273; FRL-9914-97-Region 5]

#### Approval and Promulgation of Air Quality Implementation Plans; Illinois; Amendments to Gasoline Volatility Standards and Motor Vehicle Refinishing Requirements for Illinois

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Direct final rule.

**SUMMARY:** The Environmental Protection Agency (EPA) is approving state implementation plan (SIP) revisions submitted by the Illinois Environmental Protection Agency (IEPA) on March 19, 2013, concerning the state's gasoline volatility standards. The SIP revisions also include amendments to the state's motor vehicle refinishing regulations to allow for the alternative use of a high volume, low pressure (HVLV) equivalent coating applicator in motor vehicle refinishing operations, and repeal a registration program under these regulations that overlaps with Federal registration requirements.

**DATES:** This direct final rule is effective December 5, 2014, unless EPA receives adverse comments by November 5, 2014. If adverse comments are received, EPA will publish a timely withdrawal of the direct final rule in the **Federal Register** informing the public that the rule will not take effect.

**ADDRESSES:** Submit your comments, identified by Docket ID No. EPA-R05-OAR-2013-0273, by one of the following methods:

1. *www.regulations.gov*: Follow the on-line instructions for submitting comments.
2. *Email*: [blakley.pamela@epa.gov](mailto:blakley.pamela@epa.gov).
3. *Fax*: (312) 692-2450.

4. *Mail*: Pamela Blakley, Chief, Control Strategies Section, Air Programs Branch (AR-18J), U.S. Environmental Protection Agency, 77 West Jackson Boulevard, Chicago, Illinois 60604.

5. *Hand Delivery*: Pamela Blakley, Chief, Control Strategies Section, Air Programs Branch (AR-18J), U.S. Environmental Protection Agency, 77 West Jackson Boulevard, Chicago, Illinois 60604. Such deliveries are only accepted during the Regional Office normal hours of operation, and special arrangements should be made for deliveries of boxed information. The Regional Office official hours of business are Monday through Friday, 8:30 a.m. to 4:30 p.m., excluding Federal holidays.

**Instructions:** Direct your comments to Docket ID No. EPA-R05-OAR-2013-0273. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at [www.regulations.gov](http://www.regulations.gov), including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through [www.regulations.gov](http://www.regulations.gov) or email. The [www.regulations.gov](http://www.regulations.gov) Web site is an “anonymous access” system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to EPA without going through [www.regulations.gov](http://www.regulations.gov) your email address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses.

**Docket:** All documents in the docket are listed in the [www.regulations.gov](http://www.regulations.gov) index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available



Show, Detroit River, Detroit, MI. This security zone is intended to restrict vessels from a portion of the Detroit River in order to ensure the safety and security of participants, visitors, and public officials at the North American International Auto Show (NAIAS), which is being held at Cobo Hall in downtown Detroit, MI. Vessels in close proximity to the security zone will be subject to increased monitoring and boarding during the enforcement of the security zone. No person or vessel may enter the security zone while it is being enforced without permission of the Captain of the Port Detroit.

**DATES:** The security zone regulation described in 33 CFR 165.915(a)(3) is effective without actual notice from January 21, 2016 through 11:59 p.m. on January 24, 2016. For purposes of enforcement, actual notice will be used from 8 a.m. on January 11, 2016 through January 21, 2016.

**FOR FURTHER INFORMATION CONTACT:** If you have questions on this document, call or email LCDR Nicholas Seniuk, Prevention, U.S. Coast Guard Sector Detroit, 110 Mount Elliot Ave., Detroit, MI 48207; telephone (313) 568-9508; email [Nicholas.C.Seniuk@uscg.mil](mailto:Nicholas.C.Seniuk@uscg.mil).

**SUPPLEMENTARY INFORMATION:** The Coast Guard will enforce the *North American International Auto Show, Detroit River, Detroit, MI* security zone listed in 33 CFR 165.915(a)(3). This security zone includes all waters of the Detroit River encompassed by a line beginning at a point of origin on land adjacent to the west end of Joe Louis Arena at 42°19.44' N., 083°03.11' W.; then extending offshore approximately 150 yards to 42°19.39' N., 083°03.07' W.; then proceeding upriver approximately 2000 yards to a point at 42°19.72' N., 083°01.88' W.; then proceeding onshore to a point on land adjacent the Tricentennial State Park at 42°19.79' N., 083°01.90' W.; then proceeding downriver along the shoreline to connect back to the point of origin. All coordinates are North American Datum 1983.

All persons and vessels shall comply with the instructions of the Captain of the Port Detroit or his designated on-scene representative, who may be contacted via VHF Channel 16.

Under the provisions of 33 CFR 165.33, no person or vessel may enter or remain in this security zone without the permission of the Captain of the Port Detroit. Each person and vessel in this security zone shall obey any direction or order of the Captain of the Port Detroit. The Captain of the Port Detroit may take possession and control of any vessel in this security zone. The Captain of the

Port Detroit may remove any person, vessel, article, or thing from this security zone. No person may board, or take or place any article or thing on board any vessel in this security zone without the permission of the Captain of Port Detroit. No person may take or place any article or thing upon any waterfront facility in this security zone without the permission of the Captain of the Port Detroit.

Vessels that wish to transit through this security zone shall request permission from the Captain of the Port Detroit or his designated representative. Requests must be made in advance and approved by the Captain of Port before transits will be authorized. Approvals may be granted on a case by case basis. The Captain of the Port may be contacted via U.S. Coast Guard Sector Detroit on channel 16, VHF-FM. The Coast Guard will give notice to the public via Local Notice to Mariners and VHF radio broadcasts that the regulation is in effect.

This document is issued under authority of 33 CFR 165.915 and 5 U.S.C. 552(a). If the Captain of the Port determines that this security zone need not be enforced for the full duration stated in this document; he may suspend such enforcement and notify the public of the suspension via a Broadcast Notice to Mariners.

Dated: January 8, 2016.

**Raymond Negron,**

*Commander, U.S. Coast Guard, Acting Captain of the Port Detroit.*

[FR Doc. 2016-01190 Filed 1-20-16; 8:45 am]

**BILLING CODE 9110-04-P**

## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Part 52

[EPA-R05-OAR-2015-0464; FRL-9939-78-Region 5]

### Air Plan Approval; Wisconsin; Wisconsin State Board Requirements

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule.

**SUMMARY:** The Environmental Protection Agency (EPA) is finalizing approval of state implementation plan (SIP) submissions from Wisconsin regarding the state board requirements under section 128 of the Clean Air Act (CAA). EPA is also approving elements of SIP submissions from Wisconsin regarding the infrastructure requirements of section 110, relating to state boards for the 1997 ozone, 1997 fine particulate

(PM<sub>2.5</sub>), 2006 PM<sub>2.5</sub>, 2008 lead (Pb), 2008 ozone, 2010 nitrogen dioxide (NO<sub>2</sub>), and 2010 sulfur dioxide (SO<sub>2</sub>) National Ambient Air Quality Standards (NAAQS). The proposed rulemaking associated with this final action was published on September 11, 2015, and EPA received no comments during the comment period, which ended on October 13, 2015.

**DATES:** This final rule is effective on February 22, 2016.

**ADDRESSES:** EPA has established a docket for this action under Docket ID No. EPA-R05-OAR-2015-0464. All documents in the docket are listed on the [www.regulations.gov](http://www.regulations.gov) Web site. Although listed in the index, some information is not publicly available, *i.e.*, Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through [www.regulations.gov](http://www.regulations.gov) or in hard copy at the Environmental Protection Agency, Region 5, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, Illinois 60604. This facility is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding Federal holidays. We recommend that you telephone Eric Svingen, Environmental Engineer, at (312) 353-4489 before visiting the Region 5 office.

**FOR FURTHER INFORMATION CONTACT:** Eric Svingen, Environmental Engineer, Attainment Planning and Maintenance Section, Air Programs Branch (AR-18J), Environmental Protection Agency, Region 5, 77 West Jackson Boulevard, Chicago, Illinois 60604, (312) 353-4489, [svingen.eric@epa.gov](mailto:svingen.eric@epa.gov).

### SUPPLEMENTARY INFORMATION:

Throughout this document whenever “we,” “us,” or “our” is used, we mean EPA. This supplementary information section is arranged as follows:

- I. What is the background of these SIP submissions?
- II. What guidance is EPA using to evaluate these SIP submissions?
- III. What is the result of EPA’s review of these SIP submissions?
- IV. What action is EPA taking?
- V. Incorporation by Reference
- VI. Statutory and Executive Order Reviews

### I. What is the background of these SIP submissions?

This rulemaking addresses submissions from the Wisconsin Department of Natural Resources (WDNR) dated July 2, 2015. These



submissions are intended to address CAA requirements relating to the state board requirements under section 128, as well as infrastructure requirements of section 110, relating to state boards for the 1997 ozone, 1997 PM<sub>2.5</sub>, 2006 PM<sub>2.5</sub>, 2008 Pb, 2008 ozone, 2010 NO<sub>2</sub>, and 2010 SO<sub>2</sub> NAAQS.

The requirement for states to make infrastructure SIP submissions arises out of CAA section 110(a)(1). Pursuant to section 110(a)(1), states must make SIP submissions “within 3 years (or such shorter period as the Administrator may prescribe) after the promulgation of a national primary ambient air quality standard (or any revision thereof),” and these SIP submissions are to provide for the “implementation, maintenance, and enforcement” of such NAAQS. The statute directly imposes on states the duty to make these SIP submissions, and the requirement to make the submissions is not conditioned upon EPA’s taking any action other than promulgating a new or revised NAAQS. Section 110(a)(2) includes a list of specific elements that “[e]ach such plan” submission must address.

EPA has historically referred to these SIP submissions made for the purpose of satisfying the requirements of CAA section 110(a)(1) and (2) as “infrastructure SIP” submissions. Although the term “infrastructure SIP” does not appear in the CAA, EPA uses the term to distinguish this particular type of SIP submission from submissions that are intended to satisfy other SIP requirements under the CAA. This specific rulemaking is only taking action on the CAA 110(a)(2)(E)(ii) element of these infrastructure SIP requirements, which is the only infrastructure SIP element addressed in WDNr’s submittal dated July 2, 2015.

## II. What guidance is EPA using to evaluate these SIP submissions?

EPA’s guidance for these submissions is highlighted in an October 2, 2007, guidance document entitled “Guidance on SIP Elements Required Under Sections 110(a)(1) and (2) for the 1997 8-hour Ozone and PM<sub>2.5</sub> <sup>1</sup> National Ambient Air Quality Standards” (2007 Guidance). Further guidance is provided in a September 13, 2013, document entitled “Guidance on Infrastructure State Implementation Plan (SIP) Elements under CAA Sections 110(a)(1) and (2)” (2013 Guidance).

<sup>1</sup> PM<sub>2.5</sub> refers to particles with an aerodynamic diameter of less than or equal to 2.5 micrometers, oftentimes referred to as “fine” particles.

## III. What is the result of EPA’s review of these SIP submissions?

Pursuant to section 110(a), states must provide reasonable notice and opportunity for public hearing for all infrastructure SIP submissions. WDNr provided notice of a public comment period on May 9, 2015, held a public hearing at WDNr State Headquarters on June 9, 2015, and closed the public comment period on June 11, 2015. No comments were received.

Wisconsin provided a detailed synopsis of how various components of its SIP meet each of the applicable requirements in section 128 and 110(a)(2)(E)(ii) for the 1997 ozone, 1997 PM<sub>2.5</sub>, 2006 PM<sub>2.5</sub>, 2008 Pb, 2008 ozone, 2010 NO<sub>2</sub>, and 2010 SO<sub>2</sub> NAAQS, as applicable.

On September 11, 2015 (80 FR 54744), EPA published a proposed rule that would approve these submissions into Wisconsin’s SIP. This proposed rule contained a detailed evaluation of how Wisconsin’s submissions satisfy certain requirements under CAA sections 110 and 128. No comments were received. Therefore, EPA is finalizing this rule as proposed.

## IV. What action is EPA taking?

EPA is taking final action to incorporate *Wis. Stats.* 15.05, 19.45(2), and 19.46 into Wisconsin’s SIP. EPA is further approving these submissions as meeting CAA obligations under section 128, as well as 110(a)(2)(E)(ii) for the 1997 ozone, 1997 PM<sub>2.5</sub>, 2006 PM<sub>2.5</sub>, 2008 Pb, 2008 ozone, 2010 NO<sub>2</sub>, and 2010 SO<sub>2</sub> NAAQS.

## V. Incorporation by Reference

In this rule, EPA is finalizing regulatory text that includes incorporation by reference. In accordance with requirements of 1 CFR 51.5, EPA is finalizing the incorporation by reference of the Wisconsin Regulations described in the amendments to 40 CFR part 52 set forth below. EPA has made, and will continue to make, these documents generally available electronically through [www.regulations.gov](http://www.regulations.gov) and/or in hard copy at the appropriate EPA office (see the ADDRESSES section of this preamble for more information).

## VI. Statutory and Executive Order Reviews

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the CAA and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA’s role is to approve state choices, provided that they meet the criteria of

the CAA. Accordingly, this action merely approves state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this action:

- Is not a significant regulatory action subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4);
- Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- Is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA; and
- Does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, the SIP is not approved to apply on any Indian reservation land or in any other area where EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the rule does not have tribal implications and will not impose substantial direct costs on tribal governments or preempt tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000).

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the

Congress and to the Comptroller General of the United States. EPA will submit a report containing this action and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a “major rule” as defined by 5 U.S.C. 804(2).

Under section 307(b)(1) of the CAA, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by March 21, 2016. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2).)

#### List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Lead, Nitrogen dioxide, Ozone, Particulate matter, Reporting and recordkeeping requirements, Sulfur oxides.

Dated: November 23, 2015.

**Susan Hedman,**

*Regional Administrator, Region 5.*

40 CFR part 52 is amended as follows:

#### PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

■ 1. The authority citation for part 52 continues to read as follows:

**Authority:** 42 U.S.C. 7401 *et seq.*

■ 2. Section 52.2570 is amended by adding paragraph (c)(134) to read as follows:

##### § 52.2570 Identification of plan.

\* \* \* \* \*

(c) \* \* \*

(134) On July 2, 2015, the Wisconsin Department of Natural Resources submitted a request to revise the State Implementation Plan to satisfy the state board requirements under section 128 of the Clean Air Act.

(i) Incorporation by reference.

(A) Wisconsin Statutes, section 15.05 Secretaries, as revised by 2013 Wisconsin Act 20, enacted on June 30, 2013. (A copy of 2013 Wisconsin Act 20

is attached to section 15.05 to verify the enactment date.)

(B) Wisconsin Statutes, section 19.45(2), as revised by 1989 Wisconsin Act 338, enacted on April 27, 1990. (A copy of 1989 Wisconsin Act 338 is attached to section 19.45(2) to verify the enactment date.)

(C) Wisconsin Statutes, section 19.46 Conflict of interest prohibited; exception, as revised by 2007 Wisconsin Act 1, enacted on February 2, 2007. (A copy of 2007 Wisconsin Act 1 is attached to section 19.46 to verify the enactment date.)

■ 3. Section 52.2591 is amended by adding paragraph (j) to read as follows:

##### § 52.2591 Section 110(a)(2) infrastructure requirements.

\* \* \* \* \*

(j) Approval—In a July 2, 2015, submission, Wisconsin certified that the state has satisfied the infrastructure SIP requirements of section 110(a)(2)(E)(ii) for the 1997 ozone, 1997 PM<sub>2.5</sub>, 2006 PM<sub>2.5</sub>, 2008 Pb, 2008 ozone, 2010 NO<sub>2</sub>, and 2010 SO<sub>2</sub> NAAQS.

[FR Doc. 2016–01015 Filed 1–20–16; 8:45 am]

**BILLING CODE 6560–50–P**

#### DEPARTMENT OF HOMELAND SECURITY

##### Coast Guard

##### 46 CFR Part 15

[Docket No. USCG–2015–0758]

RIN 1625–AC25

##### Offshore Supply Vessels, Towing Vessel, and Barge Engine Rating Watches

**AGENCY:** Coast Guard, DHS.

**ACTION:** Direct final rule; confirmation of effective date.

**SUMMARY:** On October 26, 2015, the Coast Guard published a direct final rule, which notified the public of our intent to amend merchant mariner manning regulations to align them with statutory changes made by the Howard Coble Coast Guard and Maritime Transportation Act of 2014. The Act allows oilers serving on certain offshore support vessels, towing vessels, and barges to be divided into at least two watches. The change would increase the sea service credit affected mariners are permitted to earn for each 12-hour period of work from one day to one and a half days. The rule will go into effect as scheduled.

**DATES:** The effective date of the direct final rule published at 80 FR 65165 on

October 26, 2015 is confirmed as January 25, 2016.

**FOR FURTHER INFORMATION CONTACT:** Mr. Davis Breyer, Marine Personnel Qualifications Division (CG–OES–1), Coast Guard; email [Davis.J.Breyer@uscg.mil](mailto:Davis.J.Breyer@uscg.mil), telephone (202) 372–1445.

**SUPPLEMENTARY INFORMATION:** We received two comments in response to the direct final rule (DFR). The two comments we received were either not adverse or separable from and not within the scope of the rulemaking.

One commenter supported the rule and thanked the Coast Guard for its prompt action. Another commenter titled its comment as “adverse” and requested that the Coast Guard withdraw the DFR. The commenter agreed that “the Coast Guard is obliged to align Coast Guard regulations with the statutes” and did not oppose the changes to the regulation. The commenter argued, rather, that the Coast Guard should delay the rulemaking indefinitely and seek new legislation from Congress that limits every merchant mariner to serving a uniform maximum of 12 hours in a 24 hour period, except in an emergency.

The DFR conforms Coast Guard regulations to existing law, under which affected mariners may earn one and a half days sea service credit for each 12-hour period of work. The commenter did not oppose granting such mariners such credit for time worked. Instead, the commenter took issue with the absence of *statutory* restrictions on *the length of time certain mariners may be required to work*. The commenter advocated that the Coast Guard delay updating the regulations and request that Congress amend the statute further.

The DFR stated that “we may adopt, as final, those parts of this rule on which no adverse comment was received.” 80 FR 65166. The commenter’s requests are separable from the rule and raises issues well outside the scope of the rule. The rule will therefore go into effect as scheduled.

Dated: January 14, 2016.

**J.G. Lantz,**

*Director, Commercial Regulations and Standards, U.S. Coast Guard.*

[FR Doc. 2016–01101 Filed 1–20–16; 8:45 am]

**BILLING CODE P**

**State of Wisconsin**  
**DEPARTMENT OF NATURAL RESOURCES**  
 101 S. Webster Street  
 Box 7921  
 Madison WI 53707-7921

**Scott Walker, Governor**  
**Cathy Stepp, Secretary**  
 Telephone 608-266-2621  
 Toll Free 1-888-936-7463  
 TTY Access via relay - 711



February 8, 2016

Mr. Robert Kaplan  
 Acting Regional Administrator  
 USEPA-Region V (R-19J)  
 77 West Jackson Boulevard  
 Chicago IL 60604-3507

**Subject: Wisconsin State Implementation Plan (SIP) Revision – PM<sub>2.5</sub> Increment and Various PSD Program Changes**

Dear Mr. Kaplan:

The information contained in this SIP Revision request serves to address several issues for which Wisconsin's 1997 and 2006 PM<sub>2.5</sub> Infrastructure SIPs, 1997 ozone Infrastructure SIP, and Wisconsin's Prevention of Significant Deterioration (PSD) program were partially disapproved. Changes in this rule package address the following disapprovals and findings of failure:

1. June 15, 2012 Federal Register (77 FR 35870) Final disapproved of narrow portions of Wisconsin's SIP related to identification of NO<sub>x</sub> as a precursor to ozone under the PSD permit program. This notice also covered narrow disapproval of 1997 8-hour ozone NAAQS and 1997 24-hour PM<sub>2.5</sub> NAAQS infrastructure SIPs for identification of NO<sub>x</sub> as a precursor to ozone (EPA Docket ID EPA-R05-OAR-2007-1179)
2. August 11, 2014 Federal Register (79 FR 46704) Final Finding of Failure to Submit a PSD State Implementation Plan Revision for PM<sub>2.5</sub> (EPA Docket ID EPA-R05-OAR-2014-0517)
3. December 10 2015 Federal Register (80 FR 76637) Final Disapproval of Infrastructure SIP With Respect to Oxides of Nitrogen as a Precursor to Ozone Provisions for the 2006 PM<sub>2.5</sub> NAAQS (EPA Docket ID EPA-R05-OAR-2009-0805)

This submittal also serves to supplement infrastructure SIPs previously submitted for which the PSD portions have not yet been acted on, including the 2008 lead, 2008 ozone, 2010 Nitrogen Dioxide, 2010 Sulfur Dioxide, and 2012 PM<sub>2.5</sub> NAAQS. This supplement is necessary to show that Wisconsin's PSD permitting program incorporates all federal requirements including the requirement to properly regulate NO<sub>x</sub> as a precursor to ozone.

The WDNR in DNR Board Order AM-15-14 is completing rulemaking to address these deficiencies including identifying NO<sub>x</sub> as a precursor to ozone, adding PM<sub>2.5</sub> increment values, modifying select definitions in ch. NR 405, and changing the PM<sub>2.5</sub> significant monitoring concentration. The sections of AM-15-14 that address the deficiencies noted above include:

Board Order Section	Deficiency
Section 3, amending NR 404.05(2) (intro),	PM <sub>2.5</sub> increment
Section 4, creating NR 404.05(2)(am)	PM <sub>2.5</sub> increment
Section 5, amending NR 404.05(3)(intro),	PM <sub>2.5</sub> increment
Section 6, creating NR 404.05(3)(am)	PM <sub>2.5</sub> increment
Section 7, amending NR 404.05(4) (intro),	PM <sub>2.5</sub> increment

Section 8, creating NR 404.05(4)(am),	PM <sub>2.5</sub> increment
Section 9, amending NR 405.02(3),(21)(a), and (21m)(a)	Changes to “Baseline area”, “major modification”, and “Major source baseline date” definitions
Section 10, creating NR 405.02(21m)(c)	Changes to “Major source baseline date” definition
Section 11, amending NR 405.02(22)(b) and (22m)(a)1. and (b)1.,	Changes to address NO <sub>x</sub> as a precursor to ozone and changes to “Minor source baseline date”
Section 12, creating NR 405.02(22m)(a)3	Changes to “Minor source baseline date”
Section 13, creating NR 405.02(27)(a)6.,	Changes to address NO <sub>x</sub> as a precursor to ozone
Section 14, amending NR 405.07(8)(a)3m.,	PM <sub>2.5</sub> Significant Monitoring Concentration
Section 15, creating NR 405.07(8)(a)3m. (Note)	PM <sub>2.5</sub> Significant Monitoring Concentration
Section 16, amending NR 405.07(8)(a)5.(Note)	Changes to address NO <sub>x</sub> as a precursor to ozone

Wisconsin requests a SIP revision for only these sections of Board Order AM-15-14. AM-15-14 also contains amendments to the definition of volatile organic compounds in NR 400, changes to the rule language in NR 420, and repeal of several outdated code sections related to the vapor recovery program. Wisconsin is not requesting a SIP revision for these additional proposed rule changes at this time.

Because the changes to chs. NR 404 and NR 405, Wis. Adm. Code, have not been published in the Wisconsin Register and are not yet official, we are requesting that EPA begin parallel processing of this SIP revision so that EPA can be ready for rulemaking when the changes to chs. NR 404 and NR 405, Wis. Adm. Code are finalized. We also believe that the parallel processing will assist Wisconsin in meeting the 2-year timeframe to rectify the noted deficiencies. We are submitting attachments to this letter to assist EPA staff, which includes a promulgation schedule for the final rules. In accordance with EPA's final rule on CAA Section 110 submission requirements effective March 16, 2015 [80 FR 7336], this SIP is being submitted using EPA's electronic SIP (eSIP) submission system. We will supply EPA additional information when AM-15-14 is finalized.

We appreciate the willingness of your staff to address this issue through the parallel processing procedure. Please contact Ralph Patterson at 608-267-7546 if you have any questions.

Sincerely,

Gail Good,  
Air Management Program Director

Cc: Doug Aburano, USEPA-Region V (AR-18J), 77 West Jackson Boulevard, Chicago, IL 60604-3507  
Ralph Patterson, WDNR  
Kristin Hart, WDNR

#### **Attachments**

1. The January 2016 Natural Resources Rule Package (also known as the Green Sheet Package) containing a background memo, fiscal estimate and economic impact analysis, and rule AM-15-14

2. Rule AM-15-14
3. SIP Checklist
4. AM-15-14 Public Hearing notice – DNR did not receive any comments on AM-15-14 at the November 5, 2015 public hearing
5. Newspaper tare sheet showing Class 1 public hearing notice
6. SIP certification
7. Schedule for Final Adoption of AM-15-14

See 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the CAA. EPA is determining that the prong 4 portion of the aforementioned SIP submission does not meet federal requirements. Therefore, this action does not impose additional requirements on the state beyond those imposed by state law. For that reason, this action:

- Is not a "significant regulatory action" subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4);
- does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA; and
- does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

The SIP is not approved to apply on any Indian reservation land or in any other area where EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the rule does not have tribal implications as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), nor will it impose substantial direct costs on tribal governments or preempt tribal law.

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small

Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this action and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a "major rule" as defined by 5 U.S.C. 804(2).

Under section 307(b)(1) of the CAA, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by April 10, 2017. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. *See* section 307(b)(2).

#### List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Ozone, Particulate Matter, Reporting and recordkeeping requirements, Volatile organic compounds.

Dated: January 5, 2017.

**Heather McTeer Toney,**  
*Regional Administrator, Region 4.*

40 CFR part 52 is amended as follows:

#### PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

- 1. The authority citation for part 52 continues to read as follows:

**Authority:** 42 U.S.C. 7401 *et seq.*

#### Subpart B—Alabama

- 2. Section 52.53 is amended by adding a reserved paragraph (d) and paragraph (e) to read as follows:

##### § 52.53 Approval status.

\* \* \* \* \*

(e) *Disapproval.* Portion of the state implementation plan (SIP) revision submitted by the State of Alabama, through the Alabama Department of Environmental Management (ADEM) on

August 20, 2012, that addresses the visibility protection (prong 4) element of Clean Air Act section 110(a)(2)(D)(i) for the 2008 8-hour Ozone National Ambient Air Quality Standards (NAAQS). EPA is disapproving the prong 4 portion of ADEM's SIP submittal because it relies solely on the State having a fully approved regional haze SIP to satisfy the prong 4 requirements for the 2008 8-hour Ozone NAAQS.

[FR Doc. 2017-02303 Filed 2-6-17; 8:45 am]

**BILLING CODE 6560-50-P**

#### ENVIRONMENTAL PROTECTION AGENCY

#### 40 CFR Part 52

[EPA-R05-OAR-2016-0134; FRL-9957-58-Region 5]

#### Air Plan Approval; Wisconsin; NO<sub>x</sub> as a Precursor to Ozone, PM<sub>2.5</sub> Increment Rules and PSD Infrastructure SIP Requirements

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule.

**SUMMARY:** The Environmental Protection Agency (EPA) is approving a revision to Wisconsin's state implementation plan (SIP), revising portions of the State's Prevention of Significant Deterioration (PSD) and ambient air quality programs to address deficiencies identified in EPA's previous narrow infrastructure SIP disapprovals and Finding of Failure to Submit (FFS). This SIP revision request is consistent with the Federal PSD rules and addresses the required elements of the fine particulate matter (PM<sub>2.5</sub>) PSD Increments, Significant Impact Levels (SILs) and Significant Monitoring Concentration (SMC) Rule. EPA is also approving elements of SIP submissions from Wisconsin regarding PSD infrastructure requirements of section 110 of the Clean Air Act (CAA) for the 1997 PM<sub>2.5</sub>, 1997 ozone, 2006 PM<sub>2.5</sub>, 2008 lead, 2008 ozone, 2010 nitrogen dioxide (NO<sub>2</sub>), 2010 sulfur dioxide (SO<sub>2</sub>), and 2012 PM<sub>2.5</sub> National Ambient Air Quality Standards (NAAQS). The infrastructure requirements are designed to ensure that the structural components of each state's air quality management program are adequate to meet the state's responsibilities under the CAA.

**DATES:** This final rule is effective on March 9, 2017.

**ADDRESSES:** EPA has established a docket for this action under Docket ID No. EPA-R05-OAR-2016-0134. All documents in the docket are listed on

the [www.regulations.gov](http://www.regulations.gov) Web site. Although listed in the index, some information is not publicly available, *i.e.*, Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either through [www.regulations.gov](http://www.regulations.gov) or at the Environmental Protection Agency, Region 5, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, Illinois 60604. This facility is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding Federal holidays. We recommend that you telephone Andrea Morgan, Environmental Engineer, at (312) 353-6058, before visiting the Region 5 office.

**FOR FURTHER INFORMATION CONTACT:** Andrea Morgan, Environmental Engineer, Air Permitting Section, Air Programs Branch (AR-18J), Environmental Protection Agency, Region 5, 77 West Jackson Boulevard, Chicago, Illinois 60604, (312) 353-6058, [morgan.andrea@epa.gov](mailto:morgan.andrea@epa.gov).

**SUPPLEMENTARY INFORMATION:**

Throughout this document whenever “we,” “us,” or “our” is used, we mean EPA. This supplementary information section is arranged as follows:

- I. What is the background of these SIP submissions?
- II. What action did EPA propose on the SIP submissions?
- III. What comments were received on the proposed rulemaking?
- IV. What action is EPA taking?
- V. Incorporation by Reference
- VI. Statutory and Executive Order Reviews

**I. What is the background of these SIP submissions?**

On August 8, 2016, the Wisconsin Department of Natural Resources (WDNR) submitted a SIP revision request to EPA to revise portions of its PSD and ambient air quality programs to address deficiencies identified in EPA’s previous narrow infrastructure SIP disapprovals and FFS. Final approval of this SIP revision request will be consistent with the Federal PSD requirements and will address the required elements of the PM<sub>2.5</sub> PSD Increments, SILs and SMC Rule. Wisconsin submitted revisions to its rules NR 404 and 405 of the Wisconsin Administrative Code. The submittal requests that EPA approve the following revisions to Wisconsin’s SIP: (1) Amend NR 404.05(2)(intro); (2) create NR 404.05(2)(am); (3) amend NR 404.05(3)(intro); (4) create NR

404.05(3)(am); (5) amend NR 404.05(4)(intro); (6) create NR 404.05(4)(am); (7) amend NR 405.02(3), (21)(a), and (21m)(a); (8) create NR 405.02(21m)(c); (9) amend NR 405.02(22)(b) and (22m)(a)1. and (b)1.; (10) create NR 405.02(22m)(a)3.; (11) amend NR 405.02(27)(a)6.; (12) amend NR 405.07(8)(a)3m; (13) create NR 405.07(8)(a)3m (Note); and (14) amend NR 405.07(8)(a)5.(Note).

WDNR also requested that this SIP revision supplement the PSD portions of its previously submitted infrastructure submittals, including 1997 PM<sub>2.5</sub>, 1997 ozone, 2006 PM<sub>2.5</sub>, 2008 lead, 2008 ozone, 2010 NO<sub>2</sub>, 2010 SO<sub>2</sub>, and 2012 PM<sub>2.5</sub>.

**A. PSD Rule Revisions**

**1. PM<sub>2.5</sub> Increments**

To implement the PM<sub>2.5</sub> NAAQS, EPA issued two separate final rules that establish the New Source Review (NSR) permitting requirements for PM<sub>2.5</sub>: The NSR PM<sub>2.5</sub> Implementation Rule promulgated on May 16, 2008 (73 FR 28321), and the PM<sub>2.5</sub> PSD Increments, SILs and SMC Rule promulgated on October 20, 2010 (75 FR 64864). EPA’s 2008 NSR PM<sub>2.5</sub> Implementation Rule required states to submit applicable SIP revisions to EPA no later than May 16, 2011, to address this rule’s PSD and nonattainment NSR SIP requirements. This rule requires that the state submit revisions to its SIP, including the identification of precursors for PM<sub>2.5</sub>, the significant emissions rates for PM<sub>2.5</sub> and the requirement to include emissions which may condense to form particulate matter at ambient temperatures, known as condensables, in permitting decisions. EPA published a final approval of a revision to Wisconsin’s SIP on October 16, 2014, (79 FR 62008), which included all of the required elements of the 2008 NSR Implementation Rule.

The PM<sub>2.5</sub> PSD Increments, SILs and SMC Rule required states to submit SIP revisions to EPA by July 20, 2012, adopting provisions equivalent to or at least as stringent as the PM<sub>2.5</sub> PSD increments and associated implementing regulations. On August 11, 2014, EPA published a finding that Wisconsin had failed to submit the required elements of the PM<sub>2.5</sub> PSD Increments, SILs and SMC Rule (79 FR 46703).

The PM<sub>2.5</sub> PSD Increments, SILs and SMC Rule also allows states to discretionarily adopt and submit for EPA approval: (1) SILs, which are used as a screening tool to evaluate the impact a proposed new major source or major modification may have on the

NAAQS or PSD increment; and (2) a SMC (also a screening tool), which is used to determine the subsequent level of data gathering required for a PSD permit application for emissions of PM<sub>2.5</sub>. However, on January 22, 2013, the United States Court of Appeals for the District of Columbia (Court) granted a request from EPA to vacate and remand to EPA the portions of the PM<sub>2.5</sub> PSD Increments, SILs and SMC Rule PM<sub>2.5</sub> addressing the SILs for PM<sub>2.5</sub> so that EPA could voluntarily correct an error in these provisions. The Court also vacated parts of the PM<sub>2.5</sub> PSD Increments, SILs and SMC Rule establishing a PM<sub>2.5</sub> SMC, finding that EPA was precluded from using the PM<sub>2.5</sub> SMCs to exempt permit applicants from the statutory requirement to compile preconstruction monitoring data. *Sierra Club v. EPA*, 705 F.3d 458, 463–69. On December 9, 2013, EPA issued a good cause final rule formally removing the affected SILs and replacing the SMC with a numeric value of 0 micrograms per cubic meter (µg/m<sup>3</sup>) and a note that no exemption is available with regard to PM<sub>2.5</sub>. See 78 FR 73698. As a result, SIP submittals could no longer include the vacated PM<sub>2.5</sub> SILs at 40 CFR 51.166(k)(2) and 52.21(k)(2) and the PM<sub>2.5</sub> SMC must be revised to 0 µg/m<sup>3</sup>, consistent with 40 CFR 51.166(i)(5)(i)(c) and 52.21(i)(5)(i)(c).

**2. Ozone**

On November 29, 2005, EPA published (70 FR 71612) in the **Federal Register** the “Final Rule to Implement the 8-Hour Ozone National Ambient Air Quality Standard—Phase 2”. Part of this rule established, among other requirements, oxides of nitrogen (NO<sub>x</sub>) as a precursor to ozone. The final rule became effective on January 30, 2006.

On October 6, 2014, EPA finalized approval of revisions to Wisconsin’s SIP that included the identification of NO<sub>x</sub> as a precursor to ozone in the definition of regulated NSR pollutant. See 79 FR 60064.

**B. Infrastructure SIP Submittals**

The requirement for states to make a SIP submission of this type arises out of CAA section 110(a)(1). Pursuant to section 110(a)(1), states must make SIP submissions “within 3 years (or such shorter period as the Administrator may prescribe) after the promulgation of a national primary ambient air quality standard (or any revision thereof),” and these SIP submissions are to provide for the “implementation, maintenance, and enforcement” of such NAAQS. The statute directly imposes on states the duty to make these SIP submissions,

and the requirement to make the submissions is not conditioned upon EPA's taking any action other than promulgating a new or revised NAAQS. Section 110(a)(2) includes a list of specific elements that "[e]ach such plan" submission must address.

This specific rulemaking is only taking action on the PSD elements of the Wisconsin infrastructure submittals. Separate action has been or will be taken on the non-PSD infrastructure elements in separate rulemakings. The infrastructure elements for PSD are found in CAA 110(a)(2)(C), 110(a)(2)(D), and 110(a)(2)(J) and will be discussed in detail below. For further discussion on the background of infrastructure submittals, see 77 FR 45992, August 2, 2012.

## II. What action did EPA propose on the SIP submissions?

On September 30, 2016 (81 FR 67261), EPA proposed approval of a SIP revision from WDNR requesting EPA to revise portions of its PSD and ambient air quality programs to address PM<sub>2.5</sub> increment requirements and incorporating NO<sub>x</sub> as an ozone precursor. EPA proposed that these revisions were made to meet EPA's requirements for Wisconsin's PSD and NSR program and are consistent with Federal regulations.

EPA proposed that the revisions pertaining to PM<sub>2.5</sub> increments are consistent with Federal regulations and fully address the requirements of the PM<sub>2.5</sub> PSD Increments, SILs, and SMC Rule. EPA also proposed that revisions pertaining to NO<sub>x</sub> as a precursor to ozone, in conjunction with EPA's October 6, 2014 approval (79 FR 60064), will address all of the PSD requirements of the "Final Rule to Implement the 8-Hour Ozone National Ambient Air Quality Standard—Phase 2".

WDNR also requested that this SIP revision supplement the PSD portions of its previously submitted infrastructure submittals. EPA proposed that based on the approval of the PSD related SIP revisions mentioned above and previously approved SIP revisions (see 79 FR 62008, October 16, 2014), EPA is able to fully approve the PSD related infrastructure requirements found in CAA sections 110(a)(2)(C), (D)(i)(II), and (J) for Wisconsin's 1997 PM<sub>2.5</sub>, 1997 ozone, 2006 PM<sub>2.5</sub>, 2008 lead, 2008 ozone, 2010 NO<sub>2</sub>, 2010 SO<sub>2</sub>, and 2012 PM<sub>2.5</sub> NAAQS submittals.

## III. What comments were received on the proposed rulemaking?

The comment period for the proposed action associated with today's rulemaking (81 FR 67261) closed on

October 31, 2016. EPA received two supportive comments.

## IV. What action is EPA taking?

EPA is approving revisions to Wisconsin's SIP that implement the PM<sub>2.5</sub> increment requirements and also incorporate NO<sub>x</sub> as an ozone precursor. These revisions were made to meet EPA's requirements for Wisconsin's PSD and NSR program and are consistent with Federal regulations. Specifically, EPA is approving the following:

- (i) NR 404.05(2)(intro) and (am)
- (ii) NR 404.05(3)(intro) and (am)
- (iii) NR 404.05(4)(intro) and (am)
- (iv) NR 405.02(3) and (21)(a)
- (v) NR 405.02(21m)(a) and (c)
- (vi) NR 405.02(22)(b)
- (vii) NR 405.02(22m)(a)1. and 3., and (b)1.
- (viii) NR 405.02(27)(a)6.
- (ix) NR 405.07(8)(a)3m and 3m(Note)
- (x) NR 405.07(8)(a)5.(Note)

The revisions pertaining to PM<sub>2.5</sub> increments will fully address the requirements of the PM<sub>2.5</sub> PSD Increments, SILs, and SMC Rule and the deficiencies identified in EPA's August 11, 2014, Finding of Failure to Submit. The revisions pertaining to NO<sub>x</sub> as a precursor to ozone will, in conjunction with EPA's October 6, 2014 approval, address all of the PSD requirements of the "Final Rule to Implement the 8-Hour Ozone National Ambient Air Quality Standard—Phase 2" and stops the Federal Implementation Plan (FIP) clock triggered by the FFS mentioned above (79 FR 46704, August 11, 2014).

EPA is also approving the PSD related infrastructure requirements found in CAA sections 110(a)(2)(C), (D)(i)(II), and (J) for Wisconsin's 1997 PM<sub>2.5</sub>, 1997 ozone, 2006 PM<sub>2.5</sub>, 2008 lead, 2008 ozone, 2010 NO<sub>2</sub>, 2010 SO<sub>2</sub>, and 2012 PM<sub>2.5</sub> NAAQS submittals. This action stops the FIP clock triggered by the disapproval of NO<sub>x</sub> as a precursor to ozone for the PSD provisions for the 1997 ozone and PM<sub>2.5</sub> infrastructure SIPs (77 FR 35870, June 15, 2012). This action requires significant revisions to existing portions of 40 CFR 52.2591. Because there will already be substantial revisions, EPA will also be revising additional portions of 40 CFR 52.2591 that are not related to PSD for clarification or consolidation purposes only. These additional edits will not change the meaning or intent of the original language.

## V. Incorporation by Reference

In this rule, EPA is finalizing regulatory text that includes incorporation by reference. In accordance with requirements of 1 CFR 51.5, EPA is finalizing the incorporation by reference of the Wisconsin

Regulations described in the amendments to 40 CFR part 52 set forth below. EPA has made, and will continue to make, these documents generally available through [www.regulations.gov](http://www.regulations.gov) and at the EPA Region 5 Office (please contact the person identified in the "For Further Information Contact" section of this preamble for more information).

## VI. Statutory and Executive Order Reviews

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the CAA and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the CAA. Accordingly, this action merely approves state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this action:

- Is not a significant regulatory action subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4);
- Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- Is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA; and
- Does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible



methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, the SIP is not approved to apply on any Indian reservation land or in any other area where EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the rule does not have tribal implications and will not impose substantial direct costs on tribal governments or preempt tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000).

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this action and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a “major rule” as defined by 5 U.S.C. 804(2).

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by April 10, 2017. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2).)

#### List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Lead, Nitrogen dioxide, Ozone, Particulate matter, Reporting and recordkeeping requirements, Sulfur oxides.

Dated: December 13, 2016.

**Robert A. Kaplan,**

*Acting Regional Administrator, Region 5.*

40 CFR part 52 is amended as follows:

#### PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

■ 1. The authority citation for part 52 continues to read as follows:

**Authority:** 42 U.S.C. 7401 *et seq.*

■ 2. Section 52.2570 is amended by adding paragraph (c)(135) to read as follows:

##### § 52.2570 Identification of plan.

\* \* \* \* \*

(c) \* \* \*

(135) On August 8, 2016, WDNR submitted a request to revise portions of its Prevention of Significant Deterioration (PSD) and ambient air quality programs to address the required elements of the fine particulate matter (PM<sub>2.5</sub>) PSD Increments, Significant Impact Levels (SILs) and Significant Monitoring Concentration (SMC) Rule and the Final Rule to Implement the 8-Hour Ozone National Ambient Air Quality Standard—Phase 2. Wisconsin submitted revisions to its rules NR 404 and 405 of the Wisconsin Administrative Code.

(i) Incorporation by reference.

(A) Wisconsin Administrative Code, NR 404.05 Ambient Air Increments. NR 404.05(2) introductory text; NR 404.05(2)(am); NR 404.05(3) introductory text; NR 404.05(3)(am); NR 404.05(4) introductory text; and NR 404.05(4)(am), as published in the Register, July 2016, No. 727, effective August 1, 2016.

(B) Wisconsin Administrative Code, NR 405.02 Definitions. NR 405.02(3); NR 405.02(21)(a); NR 405.02(21m), except (b); NR 405.02(22)(b); NR 405.02(22m)(a)1. and 3. and (b)1.; and NR 405.02(27)(a)6., as published in the Register, July 2016, No. 727, effective August 1, 2016.

(C) Wisconsin Administrative Code, NR 405.07 Review of major stationary sources and major modifications — source applicability and exemptions. NR 405.07(8)(a)3m; 405.07(8)(a)3m. Note; and NR 405.07(8)(a)5. Note, as published in the Register, July 2016, No. 727, effective August 1, 2016.

■ 3. Section 52.2591 is revised to read as follows:

##### § 52.2591 Section 110(a)(2) infrastructure requirements.

(a) *Approval*. In a December 12, 2007 submittal, supplemented on January 24, 2011, March 28, 2011, July 2, 2015, and August 8, 2016, Wisconsin certified that the State has satisfied the infrastructure SIP requirements of section 110(a)(2)(A) through (C), (D)(ii), (E) through (H), and (J) through (M) for the 1997 8-hour ozone NAAQS.

(b) *Approval*. In a December 12, 2007 submittal, supplemented on January 24, 2011, March 28, 2011, July 2, 2015, and August 8, 2016, Wisconsin certified that the State has satisfied the infrastructure SIP requirements of section 110(a)(2)(A) through (C), (D)(ii), (E) through (H), and (J) through (M) for the 1997 PM<sub>2.5</sub> NAAQS.

(c) *Approval*. In a January 24, 2011, submittal, supplemented on March 28, 2011, June 29, 2012, July 2, 2015, and August 8, 2016, Wisconsin certified that the State has satisfied the infrastructure SIP requirements of section 110(a)(2)(A) through (H), and (J) through (M) for the 2006 24-hour PM<sub>2.5</sub> NAAQS. We are not finalizing action on (D)(i)(I) and will address these requirements in a separate action.

(d) *Approval*. In a July 26, 2012, submittal, supplemented July 2, 2015, and August 8, 2016, Wisconsin certified that the State has satisfied the infrastructure SIP requirements of section 110(a)(2)(A) through (H), and (J) through (M) for the 2008 lead (Pb) NAAQS.

(e) *Approval and Disapproval*. In a June 20, 2013, submittal with a January 28, 2015, clarification, supplemented July 2, 2015, and August 8, 2016, Wisconsin certified that the state has satisfied the infrastructure SIP requirements of section 110(a)(2)(A) through (H), and (J) through (M) for the 2008 ozone NAAQS. For 110(a)(2)(D)(i)(I), we are approving prong one and disapproving prong two.

(f) *Approval*. In a June 20, 2013, submission with a January 28, 2015, clarification, supplemented July 2, 2015, and August 8, 2016, Wisconsin certified that the state has satisfied the infrastructure SIP requirements of section 110(a)(2)(A) through (H), and (J) through (M) for the 2010 nitrogen dioxide (NO<sub>2</sub>) NAAQS.

(g) *Approval*. In a June 20, 2013, submission with a January 28, 2015, clarification, supplemented July 2, 2015, and August 8, 2016, Wisconsin certified that the state has satisfied the infrastructure SIP requirements of section 110(a)(2)(A) through (H), and (J) through (M) for the 2010 sulfur dioxide (SO<sub>2</sub>) NAAQS. We are not taking action on the transport provisions in section 110(a)(2)(D)(i)(I), and will address these requirements in a separate action.

(h) *Approval*. In a July 13, 2015, submission, supplemented August 8, 2016, WDNR certified that the state has satisfied the infrastructure SIP requirements of section 110(a)(2)(A) through (H), and (J) through (M) for the 2012 PM<sub>2.5</sub> NAAQS. We are not taking action on the transport provisions in section 110(a)(2)(D)(i)(I), and the

stationary source monitoring and reporting requirements of section 110(a)(2)(F). We will address these requirements in a separate action.

[FR Doc. 2017-02530 Filed 2-6-17; 8:45 am]

BILLING CODE 6560-50-P

## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Part 180

[EPA-HQ-OPP-2016-0083; FRL-9957-68]

### Propamocarb; Pesticide Tolerance

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule.

**SUMMARY:** This regulation establishes a tolerance for residues of propamocarb in or on potato. Bayer CropScience requested these tolerances under the Federal Food, Drug, and Cosmetic Act (FFDCA).

**DATES:** This regulation is effective February 7, 2017. Objections and requests for hearings must be received on or before April 10, 2017, and must be filed in accordance with the instructions provided in 40 CFR part 178 (see also Unit I.C. of the **SUPPLEMENTARY INFORMATION**).

**ADDRESSES:** The docket for this action, identified by docket identification (ID) number EPA-HQ-OPP-2016-0083, is available at <http://www.regulations.gov> or at the Office of Pesticide Programs Regulatory Public Docket (OPP Docket) in the Environmental Protection Agency Docket Center (EPA/DC), West William Jefferson Clinton Bldg., Rm. 3334, 1301 Constitution Ave. NW., Washington, DC 20460-0001. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the OPP Docket is (703) 305-5805. Please review the visitor instructions and additional information about the docket available at <http://www.epa.gov/dockets>.

**FOR FURTHER INFORMATION CONTACT:** Registration Division (7505P), Office of Pesticide Programs, Environmental Protection Agency, 1200 Pennsylvania Ave. NW., Washington, DC 20460-0001; main telephone number: (703) 305-7090; email address: [RDfRNotices@epa.gov](mailto:RDfRNotices@epa.gov).

## SUPPLEMENTARY INFORMATION:

### I. General Information

#### A. Does this action apply to me?

You may be potentially affected by this action if you are an agricultural

producer, food manufacturer, or pesticide manufacturer. The following list of North American Industrial Classification System (NAICS) codes is not intended to be exhaustive, but rather provides a guide to help readers determine whether this document applies to them. Potentially affected entities may include:

- Crop production (NAICS code 111).
- Animal production (NAICS code 112).
- Food manufacturing (NAICS code 311).
- Pesticide manufacturing (NAICS code 32532).

#### B. How can I get electronic access to other related information?

You may access a frequently updated electronic version of EPA's tolerance regulations at 40 CFR part 180 through the Government Printing Office's e-CFR site at [http://www.ecfr.gov/cgi-bin/text-idx?&c=ecfr&tpl=/ecfrbrowse/Title40/40tab\\_02.tpl](http://www.ecfr.gov/cgi-bin/text-idx?&c=ecfr&tpl=/ecfrbrowse/Title40/40tab_02.tpl).

#### C. How can I file an objection or hearing request?

Under FFDCA section 408(g), 21 U.S.C. 346a, any person may file an objection to any aspect of this regulation and may also request a hearing on those objections. You must file your objection or request a hearing on this regulation in accordance with the instructions provided in 40 CFR part 178. To ensure proper receipt by EPA, you must identify docket ID number EPA-HQ-OPP-2016-0083 in the subject line on the first page of your submission. All objections and requests for a hearing must be in writing, and must be received by the Hearing Clerk on or before April 10, 2017. Addresses for mail and hand delivery of objections and hearing requests are provided in 40 CFR 178.25(b).

In addition to filing an objection or hearing request with the Hearing Clerk as described in 40 CFR part 178, please submit a copy of the filing (excluding any Confidential Business Information (CBI)) for inclusion in the public docket. Information not marked confidential pursuant to 40 CFR part 2 may be disclosed publicly by EPA without prior notice. Submit the non-CBI copy of your objection or hearing request, identified by docket ID number EPA-HQ-OPP-2016-0083, by one of the following methods:

- **Federal eRulemaking Portal:** <http://www.regulations.gov>. Follow the online instructions for submitting comments. Do not submit electronically any information you consider to be CBI or other information whose disclosure is restricted by statute.

- **Mail:** OPP Docket, Environmental Protection Agency Docket Center (EPA/DC), (28221T), 1200 Pennsylvania Ave. NW., Washington, DC 20460-0001.

- **Hand Delivery:** To make special arrangements for hand delivery or delivery of boxed information, please follow the instructions at <http://www.epa.gov/dockets/contacts.html>.

Additional instructions on commenting or visiting the docket, along with more information about dockets generally, is available at <http://www.epa.gov/dockets>.

### II. Summary of Petitioned-For Tolerance

In the **Federal Register** of October 27, 2016 (81 FR 74753) (FRL-9954-27), EPA issued a document pursuant to FFDCA section 408(d)(3), 21 U.S.C. 346a(d)(3), announcing the filing of a pesticide petition (PP 5F8430) by Bayer CropScience, 2 T.W. Alexander Drive, P.O. Box 12014, Research Triangle Park, NC 27709. The petition requested that 40 CFR 180.499 be amended by increasing the tolerance for residues of the fungicide propamocarb hydrochloride, in or on potato from 0.06 to 0.30 parts per million (ppm). That document referenced a summary of the petition prepared by Bayer CropScience, the registrant, which is available in the docket, <http://www.regulations.gov>. There were no comments received concerning this action for propamocarb in response to the notice of filing.

### III. Aggregate Risk Assessment and Determination of Safety

Section 408(b)(2)(A)(i) of FFDCA allows EPA to establish a tolerance (the legal limit for a pesticide chemical residue in or on a food) only if EPA determines that the tolerance is "safe." Section 408(b)(2)(A)(ii) of FFDCA defines "safe" to mean that "there is a reasonable certainty that no harm will result from aggregate exposure to the pesticide chemical residue, including all anticipated dietary exposures and all other exposures for which there is reliable information." This includes exposure through drinking water and in residential settings, but does not include occupational exposure. Section 408(b)(2)(C) of FFDCA requires EPA to give special consideration to exposure of infants and children to the pesticide chemical residue in establishing a tolerance and to "ensure that there is a reasonable certainty that no harm will result to infants and children from aggregate exposure to the pesticide chemical residue. . . ."

Consistent with FFDCA section 408(b)(2)(D), and the factors specified in FFDCA section 408(b)(2)(D), EPA has

## **APPENDIX 2**

### **2011 and 2014 Wisconsin Emission Inventories Documentation**

# Sheboygan County Redesignation Request

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## ABBREVIATIONS

AI	Active Ingredient
BTU	British Thermal Unit
CLF	Crop Life Foundation
DOE	Department of Energy
EIA	Energy Information Administration
EIIP	Emission Inventory Improvement Program
EP	Emission Potential
ERTAC	Eastern Regional Technical Advisory Committee
FHWA	Federal Highway Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
HPMS	Highway Performance Monitoring System
IC	Internal Combustion
LADCO	Lake Michigan Air Directors Consortium
LPG	Liquid Petroleum Gas
MACT	Maximum Achievable Control Technology
MAR	Commercial Marine Aircraft and Rail Locomotive
MOVES	Motor Vehicle Emission Simulator
MPO	Metropolitan Planning Organization
NEC	Not Elsewhere Classified
NEI	National Emissions Inventory
NMIM	National Mobile Inventory Model
OBD	On-Board Diagnostics
OSHA	Occupational Safety and Health Administration
PAD	Petroleum Administration for Defense
PM	Particulate Matter
POTW	Publicly Owned Treatment Work
RIA	Regulatory Impact Analysis
SAF	Spatial Apportioning Factor
SCC	Source Classification Code
SED	State Energy Data
SEDS	State Energy Data System
SEWRPC	Southeastern Wis. Regional Planning Commission
SIP	State Implementation Plan
VMT	Vehicle-Miles of Travel
WDNR	Wisconsin Department of Natural Resources
WDOT	Wisconsin Department of Transportation

## **1. Introduction**

This appendix provides additional information for the sector-specific nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOC) tons per summer day (tpsd) emission estimates in section 4.2 (Nonattainment Year (2011) and Attainment Year (2014) Inventories) of the Wisconsin Department of Natural Resources (WDNR) Sheboygan County redesignation request. For U.S. EPA to redesignate an area from nonattainment to attainment for ozone, a state must show that improvement in air quality is due to permanent and enforceable reductions in emissions. This is accomplished in part by developing and comparing a nonattainment year (2011) emissions inventory and attainment year (2014) emissions inventory.

## **2. Emissions Calculation Methodologies**

### **2.1 Point Sources**

Point sources are industrial, commercial or institutional stationary facilities which are normally located in permanent sites, and which emit specific air pollutants in great enough quantities to warrant individual quantification. To better enable detailed control evaluations, the point source emission inventories (EIs) include all reporting sources at that facility regardless of the magnitude of reported emissions. For this attainment demonstration portable point sources, such as asphalt plants and rock crushers, were reported under nonpoint sources to be consistent with other states. The 2011 point source emission inventory was created using annually reported point source emissions, the EPA's Clean Air Markets Division (CAMD) database and approved EPA techniques for emissions calculation (e.g., emission factors).

Whenever feasible, federal, state and local controls were factored into the emission calculations. Emissions were estimated by collecting process-level information from each facility that qualifies for inclusion into the state's point source database. In Wisconsin, this information is normally collected via an internet or a computer diskette submittal, and subsequently loaded into the point source database. Process, boiler, fugitive and tank emissions are typically calculated using throughput information multiplied by an emission factor for that process. Emission factor sources included mass balance, stack testing, continuous emissions monitors, engineering judgment and EPA's Factor Information Retrieval (FIRE) database. Missing data elements such as Source Classification Codes (SCC), North American Industrial Classification System (NAICS) codes and seasonal throughput percentages were added into the state's point source database. Process level confidential data were removed while retaining any associated emissions.

There are two electric generating unit (EGU) point source facilities located in Sheboygan County: the Edgewater coal-fired power plant and the Sheboygan Falls natural gas fired power plant. For these sources, WDNR used the maximum daily heat input reported in EPA's CAMD database for each facility as a conservative estimate of summer day heat input during the 2011 and 2014 ozone seasons. The summer day emissions were then calculated by multiplying the maximum daily heat input by an average NO<sub>x</sub> and VOC emission rate for each facility. Appendix 4 provides the detailed methodology used to calculate EGU summer day emissions.

The 2011 and 2014 emissions inventories for non-EGU point sources were tabulated using the emissions data reported annually by each facility operator to the WDNR air emissions inventory (AEI). The AEI calculates emissions for each individual emissions unit or process line by multiplying fuel or process throughput by the appropriate emission factor that is derived from mass balance analysis, stack testing, continuous emissions monitoring, engineering analysis, or EPA's Factor Information Retrieval database. The emission calculations in the AEI also account for any operating control equipment. Appendix 5 provides a list of non-EGU point source emissions by facility identification number (FID) and facility name for 2011 and 2014. These non-EGU point source facilities are assumed to operate steadily over 365 days each year. Therefore, summer day emissions are derived by dividing each facility's annual reported emissions by 365 days.

## 2.2 Nonpoint (Area) Sources

Nonpoint sources are stationary sources that are too small and/or too numerous to be tracked individually in the point source inventory, and the nonpoint inventory quantifies emissions collectively. These sources include commercial/institutional, industrial and residential sources such as gasoline stations, dry cleaners, consumer and commercial products, industrial solvent use, auto refinishing and wood combustion.

For the 2011 nonattainment year, nonpoint source emissions inventory estimates were based on the NEI. Emission calculation methodologies used in developing 2011 nonpoint emissions inventory are described in sections 2.2.1 through 2.2.17 below.

For the 2014 attainment year, nonpoint source emissions inventory estimates were based on data interpolation between 2011 NEI and EPA's 2017 emissions modeling inventory, except for the category "Gasoline Service Stations, Stage II: Total Refueling" as described in section 2.2.15. The data interpolation was done because the 2014 NEI area source emissions were under U.S. EPA review at the time of developing this redesignation request. Methodologies used to develop 2017 emissions modeling inventory are available in the EPA's Technical Support Document (TSD) of the 2011 Emission Modeling Platform.<sup>1</sup>

### 2.2.1 Fuel Combustion-Industrial Boilers, ICEs

The fuel combustion at stationary nonpoint sources within the industrial sector is presented in this section, which includes the following EIS sectors. They are described in a single section because the methods used are the same across all sectors.

SCC	SCC Level 1	SCC Level 2	SCC Level 3	SCC Level 4
2102002000	Stationary Source Fuel Combustion	Industrial	Bituminous/Subbituminous Coal	Total: All Boiler Types
2102004001	Stationary Source Fuel Combustion	Industrial	Distillate Oil	Total: Boilers

<sup>1</sup> [https://www3.epa.gov/ttn/chief/emch/2011v6/2011v6\\_2\\_2017\\_2025\\_EmisMod\\_TSD\\_aug2015.pdf](https://www3.epa.gov/ttn/chief/emch/2011v6/2011v6_2_2017_2025_EmisMod_TSD_aug2015.pdf)

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2102004002	Stationary Source Fuel Combustion	Industrial	Distillate Oil	Total: IC Engines
2102005000	Stationary Source Fuel Combustion	Industrial	Residual Oil	Total: All Boiler Types
2102006000	Stationary Source Fuel Combustion	Industrial	Natural Gas	Total: Boilers and IC Engines
2102007000	Stationary Source Fuel Combustion	Industrial	Liquefied Petroleum Gas (LPG)	Total: All Combustor Types
2102008000	Stationary Source Fuel Combustion	Industrial	Wood	Total: All Boiler Types
2102011000	Stationary Source Fuel Combustion	Industrial	Kerosene	Total: All Combustor Types

This sector is not reported in the point source inventory as the emissions are too small. Emissions assigned for point sources were subtracted from the total emissions to estimate the adjusted area source emissions. Another approach for making such adjustments is to subtract the activity assigned for point sources from the total activity to estimate the adjusted area source activity. As carried over from 2008 National Emissions Inventory (NEI), it was assumed that coal has not been consumed in Sheboygan County under industrial source fuel combustion category. These sectors are defined by the nonpoint SCCs starting with 2102x (boilers, engines or total across boilers and engines) and 280152x (orchard heaters) firing any type of fuel. The EPA provided a cross-walk between nonpoint and their corresponding point sources SCCs for point source adjustments. The primary fuels used by the boilers are coal, oil and natural gas. Other fuels used by industrial boilers include biomass, waste products and process gases. The primary fuels used by the ICE are natural gas and oil, but there are some which use various available process gases and liquefied petroleum gas (LPG). In this report, only NO<sub>x</sub> and VOC emissions are included.

### Activity Data

Total sales statistics for the industrial sector energy consumption in the State of Wisconsin were obtained from the U.S. Department of Energy (DOE)'s Energy Information Administration (EIA). Their annual publication, titled the State Energy Data (SED) report provides total consumption for most of the fuel oils and kerosene.<sup>2</sup> A separate EIA data source was used for distillate oil. Year 2009 SED were used to estimate 2011 emissions because these were the latest year consumption data available at the time this work was performed in 2012.

### Emission Factors

The EPA has compiled criteria and hazardous air pollutant emission factors for nonpoint source industrial fuel combustion categories.<sup>3</sup> Since only VOC and NO<sub>x</sub> were considered in developing this redesignation request emission estimates, the emission factors for these two pollutants are listed in Table A2.1.

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<sup>2</sup> U.S. Energy Information Administration, <http://www.eia.gov>

<sup>3</sup> Emission factors from EPA: `ici_fuel_combustion_by_state` directory at <ftp://ftp.epa.gov/EmisInventory/2011nei/doc/>, accessed on 10-23-2012



**Table A2.1. Emission Factors for Industrial Source Fuel Combustion (lb / unit of fuel throughput).**

Pollutant	EIS Pollutant code	(TON) Coal Bit/ Subbit	(1000 gal) Distillate Oil - blr	(1000 gal) Diesel - eng	(1000 gal) Residual Oil	(1000 gal) Liquid Petroleum Gas	(MMCF) Natural Gas	(1000 gal) Kerosene	(TON) Wood
Nitrogen Oxides	NOx	11.000	20.000	604.000	55.000	14.230	100.000	19.290	0.220
Volatile Organic Compounds	VOC	0.050	0.200	-	0.280	0.520	5.500	0.190	0.017

### Emissions Calculation

In calculating emissions for industrial fuel combustion, state-level fuel consumption estimates were first developed, which represent the relevant activity. These were then allocated to the county-level, and then the resulting county-level consumption estimates were multiplied by appropriate emission factors.

General equation for emissions calculation is:

$$Emissions = (Fuel\ Use\ in\ Wisconsin) \times (Emission\ Factor\ per\ Pollutant)$$

To avoid double counting, point source estimates were subtracted from total emissions:

$$Emissions_{Area} = (Emissions_{Total\ Stationary}) - (Emission_{Point})$$

Distillate oil category included the total of boilers and internal combustion (IC) engines that use distillate oil as the fuel type. The activity is estimated in thousand barrels of distillate oil consumed using the EIA's fuel oil and kerosene sales as the data source. To avoid double-counting of distillate oil consumption between the nonpoint and nonroad sector emission inventories, EPA has used more detailed distillate oil consumption estimates reported in EIA's Fuel Oil and Kerosene Sales, and assumptions used in the regulatory impact analysis (RIA) for EPA's nonroad diesel emissions rulemaking.<sup>4,5</sup>

For fuels where boiler and engine emission factors are considered and only one emission factor was available, that single energy factor was applied to both the boiler and engine types. The Eastern Regional Technical Advisory Committee (ERTAC) approved emission factors based on nonpoint compilation performed by EPA were used for emissions estimation. In developing the 2011 NEI, distillate fuel oil types No.1, No.2 and No.4 were combined for emissions calculation since the fraction of fuel oil No.4 is relatively small.

Residual oil category included the total of all boilers that use residual oil as the fuel type. The activity is estimated in thousand barrels of residual oil consumed using the EIA's SED as the data source.

<sup>4</sup> Energy Information Administration, U.S. Department of Energy, *Fuel Oil and Kerosene Sales*, data available from [http://www.eia.gov/dnav/pet/pet\\_cons\\_821use\\_dcunusa.htm](http://www.eia.gov/dnav/pet/pet_cons_821use_dcunusa.htm).

<sup>5</sup> U.S. Environmental Protection Agency, "Draft Regulatory Impact Analysis: Control of Emissions from Nonroad Diesel Engines," EPA420-R-03-008, Office of Transportation and Air Quality, April 2003.

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Natural gas category included the total of all boilers and IC engines that use natural gas as the fuel type. The activity is estimated in million cubic feet of natural gas consumed using EIA's SEDS as the data source.

Liquid Petroleum Gas (LPG) category included the total of all boilers that use LPG as the fuel type. The activity is estimated in thousand barrels of LPG consumed using EIA's SEDS as the data source.

Wood category included the total of all boilers that use wood as the fuel type. The activity is estimated in tons of wood consumed. The emission factors are from webFIRE.

Kerosene category included the total of all boilers that use kerosene as the fuel type. The activity is estimated in thousand barrels of kerosene consumed using EIA's SEDS as the data source.

### 2.2.2 Fuel Combustion - Commercial/Institutional

The emission estimates for fuel combustion at stationary nonpoint sources within the commercial/institutional sector is presented in this section for Sheboygan County. Only NO<sub>x</sub> and VOC emissions are included in this report. The commercial/institutional fuel combustion sector includes data from the WDNR submission.

SCC	SCC Level 1	SCC Level 2	SCC Level 3	SCC Level 4
2103002000	Stationary Source Fuel Combustion	Commercial/Institutional	Bituminous/Subbituminous Coal	Total: All Boiler Types
2103004000	Stationary Source Fuel Combustion	Commercial/Institutional	Distillate Oil	Total: Boilers and IC Engines
2103005000	Stationary Source Fuel Combustion	Commercial/Institutional	Residual Oil	Total: All Boiler Types
2103011000	Stationary Source Fuel Combustion	Commercial/Institutional	Kerosene	Total: All Combustor Types
2103007000	Stationary Source Fuel Combustion	Commercial/Institutional	Liquified Petroleum Gas (LPG)	Total: All Combustor Types
2103006000	Stationary Source Fuel Combustion	Commercial/Institutional	Natural Gas	Total: Boilers and IC Engines

These sectors are defined by the point source SCCs beginning with 103x, 105x and 2030x and the nonpoint SCCs starting with 2103x. These SCCs include boilers, internal combustion engines (ICE), including reciprocating and turbines, and space heaters. The primary fuels used by the boilers are coal, oil and natural gas. Other fuels used by commercial/institutional boilers include biomass, waste products and process gases. The primary fuels used by the ICE are natural gas and oil, but there are some which use various available process gases and LPG.

### Activity Data

EIA survey data developed by the DOE is the source for activity data. However, such survey information included in SEDS reports requires certain adjustments to identify the

commercial/institutional coal consumption. One potential approach to distinguish such consumption is contacting a small number of local distributors to obtain estimates for the commercial/institutional deliveries. To estimate 2011 emissions, year 2009 data were used as these were the latest year consumption data available at the time this work was performed in 2012.

## Emission Factors

ERTAC approved emission factors based on nonpoint compilation performed by EPA were used for emissions estimation of most of the categories except wood. The EPA has compiled criteria and hazardous air pollutant emission factors for nonpoint source commercial/institutional fuel combustion categories<sup>6</sup>. The emissions factor for commercial/institutional wood combustion was downloaded from WebFIRE, the U.S. EPA's online emissions factor repository, retrieval and development tool (Table A2.2).

**Table A2.2. Emission Factors for Commercial/Institutional Fuel Combustion (lb /unit of fuel throughput)**

Pollutant	EIS Pollutant code	(TON) Coal Bit/ Subbit	(1000 gal) Distillate Oil - blr	(1000 gal) Diesel- eng	(1000 gal) Residual Oil	(1000 gal) Liquid Petroleum Gas	(MMCF) Natural Gas	(1000 gal) Kerosene	(TON) Wood
Nitrogen Oxides	NOx	11.000	20.000	604.000	55.000	8.698	100.000	19.290	2.860
Volatile Organic Compounds	VOC	0.050	0.340	-	1.130	0.478	5.500	0.190	0.221

## Point Source Adjustments

Emissions assigned for point sources were subtracted from the total emissions to estimate the adjusted area source emissions. Another approach for making such adjustments is to subtract the activity assigned for point sources from the total activity to estimate the adjusted area source activity.

Usually, a portion of the activity data may represent deliveries to larger commercial/institutional facilities that may be inventoried as point sources. Due to differences in emissions estimation methods and/or emissions factors, it is more appropriate to use activity data in point source adjustments. However, the usage of activity data is preferred for the convenience of comparison, for the scenarios that only emission estimates are available, it would be more appropriate to subtract pre-controlled emissions representing point sources from total stationary emission estimates in order to make adjustments.

<sup>6</sup> Emission factors from EPA: ici\_fuel\_combustion\_by\_state directory at <ftp://ftp.epa.gov/EmisInventory/2011nei/doc/>, accessed on 10-23-2012

## County Allocation of State Activity Data

The approach in calculating emissions for this sector is to first develop state-level fuel consumption estimates, then to allocate these to the county-level, and then to multiply the resulting county-level consumption estimates by appropriate emission factors.

State-level commercial/institutional fuel combustion by fuel type was allocated to each County using the ratio of the number of commercial/institutional sector employees in each county to the total number of commercial/institutional sector employees in the state. Initially prepared state-wide emission estimations were allocated into county-level using adjustments based employment data and heating degree days. The employment information was obtained from the State Department of Labor. The significance of this category during the time of the inventory period for a certain geographic region is also an important factor for apportioning emissions from state-level to county-level. Commercial use may be temporally apportioned based on information from local distributors. Monthly deliveries should be obtained from a small sample of commercial/institutional coal distributors. The monthly percentages of annual deliveries found for the sampled distributors may be used to apportion consumption for the inventory area.<sup>7</sup>

Coal category covers air emissions from coal combustion in the commercial/institutional sector for space and water heating. The category includes small boilers, furnaces, heaters, and other heating units that are not inventoried as point sources. This sector represents the coal combustion in wholesale and retail businesses, health institutions, social and educational institutions, and Federal, state and local government institutions. The space heating and water heating equipment that consume bituminous/subbituminous coal were considered in developing the inventory for this category with the assumption of 100% coal consumption comes from bituminous/subbituminous coal. Regulations for coal combustion are generally applicable to point sources and do not apply to the area sources in this category.

The fuel oil category includes the emissions from the use of distillate oil, residual oil or kerosene, used in small boilers, furnaces, heaters, and other heating units, that are not inventoried as point sources. Such combustions occur at wholesale and retail businesses, health institutions, social and educational institutions, and federal, state and local government institutions are considered in developing the inventory for this category. Distillate oil grades No.1, No.2 and No.4 are combined for emissions calculation. The activity is estimated in thousand barrels of fuel oil type consumed. This value represents the number of barrels of distillate oil consumed in this sector during fuel combustion. Fuel oil sales were obtained from the DOE's EIA.<sup>8</sup> Their annual SED report provides total consumption by fuel type for distillate oil, residual oil, and kerosene. Only if very few households consume a certain fuel oil, then deliveries could be assumed entirely to the commercial sector.

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<sup>7</sup> Emissions Inventory Improvement Program (EIIP) Area Source Method Abstract – Residential and Commercial/Institutional Fuel Oil and Kerosene Combustion: <http://www.epa.gov/ttn/chief/eiip/techreport/volume03>

<sup>8</sup> U.S Department of Energy, Energy Information Administration, Office of Oil and Gas, Petroleum Marketing Monthly, "Annual Report on Sales of Fuel Oil and Kerosene, 2011".

Air emissions from LPG combustion in the commercial/institutional sector includes small boilers, furnaces, heaters, and other heating units that use LPG as the fuel source and are not inventoried as point sources. Such combustions occur at wholesale and retail businesses, health institutions, social and educational institutions, and federal, state and local government institutions are considered in developing the inventory for this category.<sup>9</sup> The activity is estimated in thousand barrels of LPG consumed.

Natural gas (NG) combustion in the commercial/institutional sector includes small boilers, furnaces, heaters, and other heating units that use natural gas as the fuel source and are not inventoried as point sources. Such combustions occur at wholesale and retail businesses, health institutions, social and educational institutions, and federal, state and local government institutions are considered in developing the inventory for this category. The activity is estimated in million cubic feet of natural gas consumed.

### Emissions Calculation

Commercial/Institutional Spatial Apportioning Factor (*SAF*) for Inventory County:

$$SAF_{Inventory\ County} = \frac{HDD_{Inventory\ County} * SE_{Inventory\ County}}{\sum_{in\ State}^{All\ Counties} (HDD_{County} * SE_{County})}$$

where:

*HDD Inventory County* = annual heating degree days for Inventory County

*SE Inventory County* = Standard Industrial Classification (SIC) 50-99 employment numbers for Inventory County

*HDD County* = annual heating degree days for each County in the state

*SE County* = SIC 50-99 employment for each County in the state

The spatial apportioning factor is used to allocate the state fuel total to the county level using the following equation:

$$Fuel_{x,Inventory\ County} = SAF_{x,Inventory\ County} \times Fuel_{x,Total\ State}$$

where:

*Fuel<sub>x,Inventory County</sub>* =total fuel type *x* consumed annually in the Inventory County

*Fuel<sub>x,Total State</sub>* =total fuel type *x* consumed annually in the state

*SAF<sub>x,Inventory County</sub>* = Spatial Apportioning Factor for fuel type *x* in Inventory County

Annual commercial/institutional emissions for a fuel type was calculated using following equation:

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<sup>9</sup> Emissions Inventory Improvement Program (EIIP) Area Source Method Abstract – Natural Gas and LPG Combustion: <http://www.epa.gov/ttn/chief/eiip/techreport/volume03>

$$Emissions_{x, commercial/Institutional} = (Fuel_{x, Inventory County} \times EF_{x, Commercial/Institutional}) / 2000$$

where:

$Fuel_{x, Inventory County}$  = total fuel type x consumed annually in the Inventory County

$EF_{x, Commercial/Institutional}$  = commercial/institutional emission factor for fuel type x

### 2.2.3 Fuel Combustion – Residential – Natural Gas, Oil and Other

This category covers air emissions from fuel combustion in the residential sector for space and water heating. The category includes small boilers, furnaces, heaters, and other heating units that are not inventoried as point sources. For coal, distillate oil, natural gas, LPG, and kerosene sources listed below, WDNR adopted EPA generated emissions for 2011 NEI. This sector is contained solely in the nonpoint data category. However, for the completeness of this document, appropriate methods are described in this section.

SCC	SCC Level 1	SCC Level 2	SCC Level 3	SCC Level 4
2104001000	Stationary Source Fuel Combustion	Residential	Anthracite Coal	All Boiler Types
2104002000	Stationary Source Fuel Combustion	Residential	Bituminous/Subbituminous Coal	All Boiler Types
2104004000	Stationary Source Fuel Combustion	Residential	Distillate Oil	Total Boilers and IC Engines
2104006000	Stationary Source Fuel Combustion	Residential	Natural Gas	Total: Boilers and IC Engines
2104007000	Stationary Source Fuel Combustion	Residential	Liquid Petroleum Gas (LPG)	Total: All Combustion Types
2104011000	Stationary Source Fuel Combustion	Residential	Kerosene	Total: All Combustor Types

Activity data for residential fuel combustion may be obtained from the DOE's EIA's SED Report.<sup>10</sup> The number of households at county-level that use certain fuel type for heating purposes could be accessed from U.S. Census Bureau data. Residential and commercial fuel deliveries may separate out by obtaining samples of sales data from local fuel distributors. Emission factors for NO<sub>x</sub> and VOC are from AP-42.<sup>11</sup>

For coal combustion, it was assumed that the residential coal combustion units consume 100% of bituminous/subbituminous coal. Anthracite coal consumption was assumed to be zero percent.

Annual coal emissions are calculated for each County using emission factors and activity as:<sup>12</sup>

$$E_{x,p} = FC_x \times (1 - CE_{x,p}) \times EF_{x,p}$$

<sup>10</sup> U.S. Energy Information Administration, <http://www.eia.gov/state/?sid=WI>

<sup>11</sup> U.S. Environmental Protection Agency. Compilation of Air Pollutant Emission Factors, 5th Edition, AP-42, Volume I: Stationary Point and Area Sources. Research Triangle Park, North Carolina. 1996.

<sup>12</sup> U.S.EPA, residential\_coal\_2104001000\_2104002000\_documentation\_2011, accessed from <ftp://ftp.epa.gov/EmisInventory/2011nei/doc/>

where:

$E_{x,p}$  = annual emissions for fuel type  $x$  and pollutant  $p$  (lb/year),

$FC_x$  = annual County-level fuel consumption for fuel type  $x$ ,

$CE_{x,p}$  = control efficiency for fuel type  $x$  and pollutant  $p$ , and

$EF_{x,p}$  = emission factor for fuel type  $x$  and pollutant  $p$ .

County level fuel consumption is calculated using:

$$FC_x = A_{\text{State}} \times \text{Ratio}_{\text{Anth, Bit}} \times \text{Ratio}_{\text{County houses}}$$

where:

$A_{\text{State}}$  = total tons of coal reported by the EIA,

$\text{Ratio}_{\text{Anth, Bit}}$  = ratio of anthracite and bituminous coal distribution for the residential sector

$\text{Ratio}_{\text{County houses}}$  = county allocation ratio based on number of houses burning coal.

### **Distillate Oil, Natural Gas, LPG, Kerosene and Other**

Emission calculation methods for distillate oil, natural gas, LPG and kerosene burned in residential units is covered in this category. Activity data is available in the State Energy Data consumption tables published by the EIA.<sup>13</sup> In developing 2011 NEI, year 2009 consumption data were used. To allocate the state-wide consumption of each fuel type to county-level, U.S. Census Bureau's house heating fuel type data were used.<sup>14</sup> In developing 2011 NEI, no control factors were assumed for this category.

### **Emission factors**

Criteria pollutant emission factors are from AP-42.<sup>15</sup> The distillate oil consumed by residential combustion is assumed to be No. 2 fuel oil with a heating value of 140,000 Btu per gallon. Natural gas has a heat content of 1,050 million BTU per million cubic feet. The LPG consumed by residential combustion is assumed to have a heating value of 1,020 Btu per cubic foot. Emission factors for distillate oil were used for kerosene, but the distillate oil emission factors were multiplied by a factor of 135/140 to convert them for this use. This factor is based on the ratio of the heat content of kerosene (135,000 Btu/gallon) to the heat content of distillate oil (140,000 Btu/gallon).<sup>16</sup>

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<sup>13</sup> U.S. Department of Energy, Energy Information Administration (EIA). State Energy Data 2009 Consumption. Washington, DC 2012. Internet Address: [http://www.eia.doe.gov/emeu/states/sep\\_use/total/csv/use\\_all\\_phy.csv](http://www.eia.doe.gov/emeu/states/sep_use/total/csv/use_all_phy.csv), accessed February 2012.

<sup>14</sup> <https://www.census.gov/hhes/www/housing/census/historic/fuels.html>

<sup>15</sup> U.S. Environmental Protection Agency. Compilation of Air Pollutant Emission Factors, 5th Edition, AP-42, Volume I: Stationary Point and Area Sources. Research Triangle Park, North Carolina. 1996.

<sup>16</sup> U.S. Environmental Protection Agency. Compilation of Air Pollutant Emission Factors, 5th Edition, AP-42, Volume I: Stationary Point and Area Sources. Research Triangle Park, North Carolina. 1996.

## Emissions Calculation

To calculate emissions, state-level fuel oil consumption is obtained from the EIA and allocates it out to the county level using the activity data and emissions factors. The county-level consumption of each fuel type is multiplied by the emission factors to calculate emissions as:

$$E_{x,p} = FC_x \times EF_{x,p}$$

where:

$E_{x,p}$  = annual emissions for fuel type  $x$  and pollutant  $p$

$FC_x$  = annual fuel consumption for fuel type  $x$

$EF_{x,p}$  = emission factor for fuel type  $x$  and pollutant  $p$

And  $FC_x = A_{\text{State}} \times (H_{\text{county}} / H_{\text{State}})$

where:

$A_{\text{State}}$  = State activity data from EIA

$H_{\text{county}}$  = number of houses in the county using fuel type  $x$  as the primary heating fuel

$H_{\text{State}}$  = number of houses in the state using fuel type  $x$  as the primary heating fuel

### 2.2.4 Fuel Combustion – Residential – Wood

This source category includes residential wood burning devices such as fireplaces, fireplaces with inserts (inserts), free standing woodstoves, pellet stoves, outdoor hydronic heaters (also known as outdoor wood boilers), indoor furnaces, and outdoor burning in firepits and chimneys. We further differentiate free standing woodstoves and inserts into three categories: conventional (not EPA certified); EPA certified, catalytic; and EPA certified, non-catalytic. Generally speaking, the conventional units were constructed prior to 1988. Units constructed after 1988 had to meet EPA emission standards and they are either catalytic or non-catalytic.

SCC	SCC Level 1	SCC Level 2	SCC Level 3	SCC Level 4
2104008100	Stationary Source Fuel Combustion	Residential	Wood	Fireplace: general
2104008210	Stationary Source Fuel Combustion	Residential	Wood	Woodstove: fireplace inserts; non-EPA certified
2104008220	Stationary Source Fuel Combustion	Residential	Wood	Woodstove: fireplace inserts; EPA certified; non-catalytic
2104008230	Stationary Source Fuel Combustion	Residential	Wood	Woodstove: fireplace inserts; EPA certified; catalytic
2104008300	Stationary Source Fuel Combustion	Residential	Wood	Woodstove: freestanding, general
2104008310	Stationary Source Fuel Combustion	Residential	Wood	Woodstove: freestanding, non-EPA certified
2104008320	Stationary Source Fuel Combustion	Residential	Wood	Woodstove: freestanding, EPA certified, non-catalytic
2104008330	Stationary Source Fuel Combustion	Residential	Wood	Woodstove: freestanding, EPA certified, catalytic
2104008400	Stationary Source Fuel Combustion	Residential	Wood	Woodstove: pellet-fired, general (freestanding or FP insert)
2104008510	Stationary Source Fuel Combustion	Residential	Wood	Furnace: Indoor, cordwood-fired, non-EPA certified
2104008610	Stationary Source Fuel Combustion	Residential	Wood	Hydronic heater: outdoor
2104008700	Stationary Source Fuel Combustion	Residential	Wood	Outdoor wood burning device, NEC (fire-pits, chimneys, etc)
2104009000	Stationary Source Fuel Combustion	Residential	Firelog	Total: All Combustor Types

Emission estimates were developed using a tool in Microsoft® Access®, developed by EPA. This tool computes county- and SCC-level emissions of criteria and HAPs for the entire country.



EPA updated the inputs to the tool for the 2011 NEI in partnership with ERTAC. Details about the development of the tool can be found in a reference listed below.<sup>17</sup>

### 2.2.5 Commercial Cooking

SCC	SCC Level 1	SCC Level 2	SCC Level 3	SCC Level 4
2302002100	Industrial Processes	Food and Kindred Products: SIC 20	Commercial Cooking-Charbroiling	Conveyorized Charbroiling
2302002200	Industrial Processes	Food and Kindred Products: SIC 20	Commercial Cooking-Charbroiling	Under-fired Charbroiling
2302003000	Industrial Processes	Food and Kindred Products: SIC 20	Commercial Cooking-Frying	Deep Fat Frying
2302003100	Industrial Processes	Food and Kindred Products: SIC 20	Commercial Cooking-Frying	Flat Griddle Frying
2302003200	Industrial Processes	Food and Kindred Products: SIC 20	Commercial Cooking-Frying	Clamshell Griddle Frying

In developing 2011 NEI, Wisconsin DNR adopted EPA estimates for commercial cooking categories. This source category covers air emissions from all types of commercial meat cooking based on five equipment types listed above.

Chain-driven (conveyorized) charbroilers have conveyor belts to carry the meat, broiling the top and the bottom of the food simultaneously, through the flame area mostly using natural gas. This appliance normally produces lower particulate matter (PM) and VOC emissions than under-fired charbroilers.

Under-fired charbroilers contribute the bulk of emissions for the commercial cooking sector. The equipment consists of three main components - a heating source mostly burning natural gas, a high-temperature radiant surface to hold the food, and a slotted grill. When grease from the meat falls onto the high-temperature radiant surface, both PM and VOC emissions occur.

Deep Fat Fryers use an exposed hot metal surfaces, filled with cooking oil that is continuously heating. When the raw food is cooked in deep fat fryers, most of the water at the surface of the of the product vaporizes during the cooking process generating oil mist and oil distillation, resulting PM and VOC emissions.

Griddles consist of an exposed metal plate used to cook food quickly with a small quantity of oil. The emissions include light oil particulates causing PM and VOC emissions. In this process of cooking, the food is not immersed in heated oil. Most griddles are gas fired, but fuel type does not affect emissions of PM or VOC.

Clam Shell Griddles employs a two-sided cooking configuration, lowering an upper hot plate on top of the food product to cook that side while a lower plate cooks the bottom of the product. The cooking time and the emissions are relatively low for this method.

<sup>17</sup> Huntley, Roy; Van Bruggen, J., Coldner, S., Divita, F.; "New Methodology for Estimating Emissions from Residential Wood Combustion", presented at the 17th International Emission Inventory Conference, Portland, Oregon, June 2008, <http://www.epa.gov/ttnchie1/conference/ei17/session2/huntley.pdf>

## Activity

Data on the number of restaurants in each county are available from the U.S. Census Bureau County Business Patterns database, which reports the number of full-service restaurants (NAICS 722110) and limited-service restaurants (722211) in each county.<sup>18</sup>

## Emission factors

Emission factors for each pollutant for each type of commercial cooking equipment came from the 2002 NEI documentation.<sup>19</sup>

## Control Factors

No control factors were directly applied to develop the commercial cooking categories in 2011 NEI.

## Emission Estimation

Emissions are calculated for each county using emission factors and activity as:

$$E_{ijm,2011} = \text{REST}_{i,2011} \times \text{FRAC}_j \times \text{UNITS}_j \times \text{AVG\_EMISSIONS}_{jm}$$

where:

$E_{ijm,2011}$  = the emissions of pollutant  $m$  from commercial equipment  $j$  in county  $i$  in 2011;

$\text{REST}_{i,2011}$  = the total number of restaurants in county  $i$  in 2011

$\text{FRAC}_j$  = the fraction of restaurants with commercial cooking equipment

$\text{UNITS}_j$  = the average units of equipment per restaurant

$\text{AVG\_EMISSIONS}_{jm}$  = the average emissions of pollutant  $m$  from food cooked on source category  $j$ , based on summing the average amount of food cooked on source category  $j$  multiplied by the emission factor for pollutant  $m$  from source category  $j$

### 2.2.6 Solvent – Non-Industrial Surface Coating

SCC	SCC Level 1	SCC Level 2	SCC Level 3	SCC Level 4
2401001000	Solvent Utilization	Surface Coating	Architectural Surface Coating	Total: All Solvent Types

In developing 2011 NEI, Wisconsin DNR adopted EPA estimates for architectural surface coating category. Architectural surface coating operations consist of applying a thin layer of

<sup>18</sup> County Business Patterns: <http://www.census.gov/econ/cbp/index.html>

<sup>19</sup> Environmental Protection Agency (EPA). 2002. Commercial Cooking. From: Documentation for the Final 2002 Nonpoint Sector (FEB 06 version) National Emission Inventory for Criteria and Hazardous Air Pollutants. <ftp://ftp.epa.gov/EmissionInventory/2002finalnei/documentation/nonpoint/>

coating such as paint, paint primer, varnish, or lacquer to architectural surfaces, and the use of solvents as thinners and for cleanup. Volatile organic compounds (VOCs) that are used as solvents in the coatings are emitted during application of the coating and as the coating dries.

The activity is determined as the per capita usage factor by dividing the national total architectural surface coating quantities for organic solvent and water based coatings by the U.S. population for that year. The population data is available from U.S. Census Bureau.<sup>20</sup>

To estimate the VOC emitted by this source category, the amount of VOC in surface coatings should be determined using one of the two methods listed here. The first approach is the surveying architectural surface coating use in the inventory area. The survey may include product type, product amount distributed by type, product density, and VOC content of the product. The second method uses a population-based estimation.

## Emissions Calculation

Emissions are calculated for each county using emission factors and activity as:

$$Ex,p = Ax \times EF_{x,p}$$

where:

$Ex,p$  = annual emissions for category x and pollutant p

$Ax$  = population data associated with category x

$EF_{x,p}$  = emission factor for category x and pollutant p

### 2.2.7 Solvent - Industrial Surface Coating

Surface coating operations involve applying a thin layer of coating (e.g., paint, lacquer, enamel, varnish, etc.) to an object for decorative or protective purposes. The surface coating products include either a water-based or solvent-based liquid carrier that generally evaporates in the drying or curing process. Emissions result from the evaporation of the paint solvent and any additional solvent used to thin the coating. Emissions also result from the use of solvents in cleaning the surface prior to coating and in cleaning coating equipment after use.

SCC	SCC Level 1	SCC Level 2	SCC Level 3	SCC Level 4
2401005000	Solvent Utilization	Surface Coating	Automobile Refinishing: SIC 7532	Total: All Solvent Types
2401008000	Solvent Utilization	Surface Coating	Traffic Markings	Total: All Solvent Types
2401015000	Solvent Utilization	Surface Coating	Factory Finished Wood: SIC 2426 thru 242	Total: All Solvent Types
2401020000	Solvent Utilization	Surface Coating	Wood Furniture: SIC 25	Total: All Solvent Types
2401025000	Solvent Utilization	Surface Coating	Metal Furniture: SIC 25	Total: All Solvent Types
2401055000	Solvent Utilization	Surface Coating	Machinery and Equipment: SIC 35	Total: All Solvent Types
2401065000	Solvent Utilization	Surface Coating	Electronic and Other Electrical: SIC 36 - 363	Total: All Solvent Types
2401070000	Solvent Utilization	Surface Coating	Motor Vehicles: SIC 371	Total: All Solvent Types
2401075000	Solvent Utilization	Surface Coating	Aircraft	Total: All Solvent Types
2401080000	Solvent Utilization	Surface Coating	Marine: SIC 373	Total: All Solvent Types
2401090000	Solvent Utilization	Surface Coating	Miscellaneous Manufacturing	Total: All Solvent Types
2401100000	Solvent Utilization	Surface Coating	Industrial Maintenance Coatings	Total: All Solvent Types
2401200000	Solvent Utilization	Surface Coating	Other Special Purpose Coatings	Total: All Solvent Types
2401030000	Solvent Utilization	Surface Coating	Paper, Film, Foil: SIC 26	Total: All Solvent Types

<sup>20</sup> U.S. Census Bureau, "Population Estimates," at <http://www.census.gov/popest/estimates.html>.

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In developing 2011 NEI, WDNR updated the EPA provided emissions estimates for most of the surface coating categories using total employment data for each county and adopted EPA estimates for industrial maintenance, traffic markings, and other special purposes categories as listed in Table A2.3.

**Table A2.3. List of Industrial Surface Coating Categories as updated or adopted by WDNR for 2011.**

SCC	SCC Level 3	WDNR updated EPA estimates	WDNR adopted EPA estimates
2401005000	Automobile refinishing	Yes	-
2401065000	Electronic and other electrical coatings	Yes	-
2401015000	Factory finished wood	Yes	-
2401100000	Industrial maintenance	-	Yes
2401055000	Machinery and equipment	Yes	-
2401080000	Marine manufacturing	Yes	-
2401025000	Metal furniture	Yes	-
2401090000	Miscellaneous manufacturing	Yes	-
2401070000	Motor vehicles	Yes	-
2401200000	Other Special Purposes	-	Yes
2401030000	Paper, Film and Foil	Yes	-
2401020000	Wood Furniture	Yes	-
2401008000	Traffic Markings	-	Yes

### Emissions Calculation

2010 county level employment data, state-level employment data and County business pattern data were downloaded from U.S. Census Bureau. Activity data is defined the pounds of solvent sold divided by the county employment for a specific category. Emissions Factors, developed by ERTAC solvent working group, define the pounds of VOC per employee per year and were used for the calculations. Final emissions were calculated from adjusted County Employment values and emission factors. Adjusted County Employment indicates the total employment in each county for each surface coating category based on county business patterns.

Emissions are calculated for each county using emission factors and activity as:

$$Ex,p = Ax \times EF_{x,p}$$

where:

$Ex,p$  = annual emissions for category x and pollutant p

$Ax$  = employment or population data associated with category x

$EF_{x,p}$  = emission factor for category x and pollutant p

### 2.2.8 Degreasing

SCC	SCC Level 1	SCC Level 2	SCC Level 3	SCC Level 4
2415000000	Solvent Utilization	Degreasing	All Processes/All Industries	Total: All Solvent Types

Solvent cleaning (degreasing) operations are an integral part of many industries and involve the use of solvents or solvent vapor to remove water-insoluble contaminants such as grease, oils, waxes, carbon deposits, fluxes, and tars from metal, plastic, glass, and other surfaces. Solvent cleaning is usually performed prior to painting, plating, inspection, repair, assembly, heat treating, and machining. In developing 2011 NEI for this category, WDNR Updated the EPA estimated emissions using adjusted total employment data for each county. The activity data needed for this category is the number of employees from several categories of industry listed by the North American Industrial Classification Standard (NAICS) code(s) to determine county-level employment for the category. The state-wide employment data was allocated to county-level using County Business Patterns.<sup>21</sup> EPA provided emission factor for VOC.<sup>22</sup>

Emissions are calculated for each county using emission factors and activity as:

$$Ex,p = Ax \times EF_{x,p}$$

where:

$Ex,p$  = annual emissions for category x and pollutant p

$Ax$  = employment data associated with category x

$EF_{x,p}$  = emission factor for category x and pollutant p

### 2.2.9 Dry Cleaning

SCC	SCC Level 1	SCC Level 2	SCC Level 3	SCC Level 4
2420000000	Solvent Utilization	Dry Cleaning	All Processes	Total: All Solvent Types

The dry cleaning industry is a service industry for the cleaning of garments, draperies, leather goods, and other fabric items. Dry cleaning operations do not use water that can swell textile fibers, but typically use either synthetic halogenated or petroleum distillate organic solvents for cleaning purposes which causes the emission of VOCs into the ambient air. WDNR Updated the EPA estimated emissions using the adjusted total employment data for each county.

Activity data included the employee estimates allocated to counties based on county business patterns in Wisconsin. The EPA provided emission factors were developed by ERTAC.

Emissions are calculated for each county using emission factors and activity as:

$$Ex,p = Ax \times EF_{x,p}$$

where:

$Ex,p$  = annual emissions for category x and pollutant p

$Ax$  = employee data associated with category x

$EF_{x,p}$  = emission factor for category x and pollutant p

<sup>21</sup> U.S. Census Bureau, 2010 County Business Patterns accessed from <http://www.census.gov/econ/cbp/download/index.htm> and/or <http://censtats.census.gov/cgi-bin/cbpnaic/cbpsel.pl>

<sup>22</sup> <ftp://ftp.epa.gov/EmisInventory/2011nei/doc/>

## 2.2.10 Graphic Arts

SCC	SCC Level 1	SCC Level 2	SCC Level 3	SCC Level 4
2425000000	Solvent Utilization	Graphic Arts	All Processes	Total: All Solvent Types

Graphic arts include operations that are involved in the printing of newspapers, magazines, books and other printed materials. There are six basic operations used in graphic arts: lithography, gravure, letterpress, flexography, screen printing and metal decorating called platelets. In developing 2011 NEI, WDNR Updated the EPA provided emissions estimates using the adjusted total employment data for each county.

Activity data includes the specific type of printing operation and total number of employees involve in each of those operation type.<sup>23</sup> The VOC emission factor is from EPA's ERTAC Penna Graphic Arts study for 2011.<sup>24</sup> Additional emission factors were developed by ERTAC in 2011. Type of printing ink and the type of product and the production volume are also important in estimating emissions.

It is assumed that emissions from graphic arts industry are distributed uniformly throughout the year as no significant seasonal fluctuations in the production of this category were observed. To determine seasonal emissions, the fraction of the year that corresponds to the season of interest can be multiplied by annual emissions to obtain seasonal emissions.<sup>25</sup>

### Emission calculation

Emissions are calculated for each county using emission factors and activity as:

$$Ex,p = Ax \times EFx,p$$

where:

$Ex,p$  = annual emissions for category x and pollutant p

$Ax$  = employment data associated with category x

$EFx,p$  = emission factor for category x and pollutant p

## 2.2.11 Solvent - Consumer and Commercial

SCC	SCC Level 1	SCC Level 2	SCC Level 3	SCC Level 4
2460600000	Solvent Utilization	Miscellaneous Non-industrial: Consumer and Commercial	All Adhesives and Sealants	Total: All Solvent Types
2460400000	Solvent Utilization	Miscellaneous Non-industrial: Consumer and Commercial	All Automotive Aftermarket Products	Total: All Solvent Types
2460200000	Solvent Utilization	Miscellaneous Non-industrial: Consumer and Commercial	All Household Cleaning Products	Total: All Solvent Types
2460500000	Solvent Utilization	Miscellaneous Non-industrial: Consumer and Commercial	All Coatings and Related Products	Total: All Solvent Types

<sup>23</sup> U.S. Department of Labor, Bureau of Labor Statistics, "Occupational Employment Statistics", found at [http://www.bls.gov/oes/current/oes\\_dc.htm](http://www.bls.gov/oes/current/oes_dc.htm)

<sup>24</sup> ERTAC 2011 Final Penna Graphic Arts EI Study, Final Penna Graphic Arts EF Study.xlsx, from an email from Roy Huntley on 2/29/12.

<sup>25</sup> <http://www.epa.gov/ttn/chief/eiip/techreport/volume03/iii07.pdf>

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SCC	SCC Level 1	SCC Level 2	SCC Level 3	SCC Level 4
2460800000	Solvent Utilization	Miscellaneous Non-industrial: Consumer and Commercial	All FIFRA Related Products	Total: All Solvent Types
2460900000	Solvent Utilization	Miscellaneous Non-industrial: Consumer and Commercial	Miscellaneous Products (Not Otherwise Covered)	Total: All Solvent Types
2460100000	Solvent Utilization	Miscellaneous Non-industrial: Consumer and Commercial	Personal Care Products	Total: All Solvent Types

The solvent-containing products in this category include personal care products, household products, automotive aftermarket products, adhesives and sealants, pesticides, some coatings, and other commercial and consumer products that may emit VOCs. Products not included in this category are products used as non-aerosol traffic markings, architectural and industrial maintenance coatings, auto body refinishing coatings, and products used in industrial processes. In developing 2011 NEI, WDNR adopted EPA estimated emissions.

### Emissions Calculation

Emissions are calculated for each county using emission factors and activity as:

$$E_{x,p} = A \times EF_{x,p}$$

where:

$E_{x,p}$  = annual emissions for category  $x$  and pollutant  $p$ ;

$A$  = 2010 county-level population;

$EF_{x,p}$  = emission factor for category  $x$  and pollutant  $p$  (lb/person).

The emission factors used in emission estimates were developed by ERTAC.

Uncertainties may encounter for the emission estimations in these categories due to fluctuations in per capita usage for different geographical locations with seasonal variations. The changes associated with product formulations may also influence the estimates.

### 2.2.12 Solvent - Agricultural Pesticide Application

SCC	SCC Level 1	SCC Level 2	SCC Level 3	SCC Level 4
2461850000	Solvent Utilization	Miscellaneous Non-industrial: Commercial	Pesticide Application: Agricultural	All processes

Pesticides are substances used to control nuisance species and can be classified by targeted pest group: weeds (herbicides), insects (insecticides), fungi (fungicides), and rodents (rodenticides). They can be further described by their chemical characteristics: synthetics, non-synthetics (petroleum products), and inorganics. Different pesticides are made through various combinations of the pest-killing material, also called the active ingredient (AI), and various solvents. The solvents act as carriers for AI. Both types of ingredients contain VOC that may be emitted to the air during application or after application as a result of evaporation. In estimating

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potential VOC emissions, the crop-specific and regional specific pesticide application rates should be considered.<sup>26</sup>

Emissions could be estimated by summing the product of the activity data and the emissions factor for each pesticide and crop type at the county-level:

$$\text{Total VOC Emissions}_{\text{County}} = \sum (A_{\text{Pesticide,Crop}} \times \text{EF})$$

The default emission factor is expressed as the pounds of VOC that evaporate per pound of pesticide AI applied and was calculated using the following equation:

$$\text{EF} = \text{ER} \times \text{VOC}$$

where: EF = emission factor (lb VOC / lb AI)

ER = evaporation rate of applied pesticide (expressed as a fraction)

VOC = weighted pesticide VOC content (lb VOC / lb AI)

The equations discussed here are based on EPA recommendations provided in the Emissions Inventory Improvement Program guidance.<sup>27</sup>

The pesticide specific VOC emission potential (EP) of reactive organic gases (i.e., the weight percentage of product that contributes to VOC emissions) and the weight percent of active ingredient from the DPR database were used to calculate the weighted average VOC content.

$$\text{VOC} = \sum_{\text{pesticides}} [((\text{AI}/(\% \text{AI}/100)) * (\text{EP}/100)) / \text{AI}] * [(\text{AI}/(\% \text{AI}/100)) / \text{T}]$$

where: VOC = weighted pesticide VOC content (lb VOC / lb AI)

AI = active ingredient applied (lb)

%AI = weight percent of AI in pesticide mixture

EP = emissions potential of reactive organic gases (expressed as % of pesticide weight)

T = total weight of all pesticides applied (lb)

The AI applied was calculated from the AI application rates reported in the Crop Life Foundation (CLF) database and the harvested acres reported in the Department of Agriculture's Census of Agriculture. The national pesticide usage (T), reported as pounds of pesticides applied, was calculated using the following equation:

$$\text{T} = \sum_{\text{Pesticides}} \text{AI}/(\% \text{AI}/100)$$

The activity for pesticide application is the pounds of active ingredient applied and is calculated using the following equation:

$$\text{A} = \text{HA} \times \text{R} \times \text{I} \times \text{AT}$$

<sup>26</sup> Agricultural\_Pesticides\_2461850000\_Documentation downloaded from <ftp://ftp.epa.gov/EmisInventory/2011nei/doc/>

<sup>27</sup> United States Environmental Protection Agency, "Pesticides - Agricultural and Nonagricultural", Vol. 3, Ch. 9, Section 5.1, p. 9.5-4, Emissions Inventory Improvement Program, June 2001.



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where: A = pounds of active ingredient applied by pesticide by county

HA = crop-specific harvested acres in county

R = crop-specific pounds of pesticide applied per year per harvested acre

I = pounds of active ingredient per pound of pesticide

AT = percent of crop acres in the state treated with the active ingredient

### 2.2.13 Portable Fuel Containers: Residential

SCC	SCC Level 1	SCC Level 2	SCC Level 3	SCC Level 4
2501011011	Storage and Transport	Petroleum and Petroleum Product Storage	Residential Portable Fuel Containers	Permeation
2501011012	Storage and Transport	Petroleum and Petroleum Product Storage	Residential Portable Fuel Containers	Evaporation
2501011013	Storage and Transport	Petroleum and Petroleum Product Storage	Residential Portable Fuel Containers	Spillage During Transport
2501011014	Storage and Transport	Petroleum and Petroleum Product Storage	Residential Portable Fuel Containers	Refilling at the Pump-Vapor Displacement
2501011015	Storage and Transport	Petroleum and Petroleum Product Storage	Residential Portable Fuel Containers	Refilling at the Pump-Spillage
2501011016	Storage and Transport	Petroleum and Petroleum Product Storage	Residential Portable Fuel Containers	Refueling Equipment-Vapor Displacement
2501011017	Storage and Transport	Petroleum and Petroleum Product Storage	Residential Portable Fuel Containers	Refueling Equipment-Spillage

For the 2011 NEI, WDNR adopted the EPA estimated emissions for residential portable fuel containers. However, for this redesignation request, WDNR back-calculated VOC emissions for these categories from EPA's 2017 and 2025 emission estimates in its 2011 Emissions Modeling Platform, Version 6.2.<sup>28</sup> This was done due to a suspected methodology change by EPA (which led to significantly lower VOC emission estimates) for VOC emission estimates for these categories after 2011. Back-calculating 2011 emissions from EPA's 2017 and 2025 estimates is assumed to more accurately reflect EPA's updated methodology after 2011.

These categories are associated with the emissions from the fuel containers commonly known as "gas cans" and contribute VOC emissions to the ambient air in different ways.

### 2.2.14 Portable Fuel Containers: Commercial

SCC	SCC Level 1	SCC Level 2	SCC Level 3	SCC Level 4
2501012011	Storage and Transport	Petroleum and Petroleum Product Storage	Commercial Portable Fuel Containers	Permeation
2501012012	Storage and Transport	Petroleum and Petroleum Product Storage	Commercial Portable Fuel Containers	Evaporation
2501012013	Storage and Transport	Petroleum and Petroleum Product Storage	Commercial Portable Fuel Containers	Spillage During Transport
2501012014	Storage and Transport	Petroleum and Petroleum Product Storage	Commercial Portable Fuel Containers	Refilling at the Pump-Vapor Displacement
2501012015	Storage and Transport	Petroleum and Petroleum Product Storage	Commercial Portable Fuel Containers	Refilling at the Pump-Spillage

<sup>28</sup> <ftp://ftp.epa.gov/EmisInventory/2011v6/v2platform/2017emissions/>

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SCC	SCC Level 1	SCC Level 2	SCC Level 3	SCC Level 4
2501012016	Storage and Transport	Petroleum and Petroleum Product Storage	Commercial Portable Fuel Containers	Refueling Equipment-Vapor Displacement
2501012017	Storage and Transport	Petroleum and Petroleum Product Storage	Commercial Portable Fuel Containers	Refueling Equipment-Spillage

For the 2011 NEI, WDNR adopted the EPA estimated emissions for commercial portable fuel containers. However, for this redesignation request, WDNR staff back-calculated VOC emissions for these categories from EPA's 2017 and 2025 emission estimates in its 2011 Emissions Modeling Platform, Version 6.2.<sup>29</sup> This was done due to a suspected methodology change by EPA (which led to significantly lower VOC emission estimates) for VOC emission estimates for these categories after 2011. Back-calculating 2011 emissions from EPA's 2017 and 2025 estimates is assumed to more accurately reflect EPA's updated methodology after 2011.

### 2.2.15 Bulk Gasoline Terminals and Gas Stations

SCC	SCC Level 1	SCC Level 2	SCC Level 3	SCC Level 4
2501050120	Storage and Transport	Petroleum and Petroleum Product Storage	Bulk Terminals: All Evaporative Losses	Gasoline
2501055120	Storage and Transport	Petroleum and Petroleum Product Storage	Bulk Plants: All Evaporative Losses	Gasoline
2501060051	Storage and Transport	Petroleum and Petroleum Product Storage	Gasoline Service Stations	Stage 1: Submerged Filling
2501060052	Storage and Transport	Petroleum and Petroleum Product Storage	Gasoline Service Stations	Stage 1: Splash Filling
2501060053	Storage and Transport	Petroleum and Petroleum Product Storage	Gasoline Service Stations	Stage 1: Balanced Submerged Filling
2501060201	Storage and Transport	Petroleum and Petroleum Product Storage	Gasoline Service Stations	Underground Tank: Breathing and Emptying
2501060100	Storage and Transport	Petroleum and Petroleum Product Storage	Gasoline Service Stations	Stage 2: Total Refueling
2501070100	Storage and Transport	Petroleum and Petroleum Product Storage	Diesel Service Stations	Stage 2: Total Refueling
2505030120	Storage and Transport	Petroleum and Petroleum Product Storage	Truck	Gasoline
2505040120	Storage and Transport	Petroleum and Petroleum Product Storage	Pipeline	Gasoline

For 2011 NEI, WDNR adopted the EPA estimated data for emissions from petroleum and petroleum product storage categories, except for SCC 2501060100 which was estimated by WDNR staff. For the completeness of this document, the emission estimation approaches to determine VOC content in each category is discussed below. The information discussed for these categories are directly from EIIP's Gasoline Marketing document and EPA's Gasoline Distribution Stage I Documentation.<sup>30,31</sup>

These emissions occur as gasoline vapors are released into the atmosphere. Stage I emissions are produced by displacement of gasoline vapors from the storage tanks during the transfer of

<sup>29</sup> <ftp://ftp.epa.gov/EmisInventory/2011v6/v2platform/2017emissions/>

<sup>30</sup> EIIP, Chapter 11, Gasoline Marketing (Stage I & Stage II): [http://www.epa.gov/ttn/chief/eiip/techreport/volume03/iii11\\_apr2001.pdf](http://www.epa.gov/ttn/chief/eiip/techreport/volume03/iii11_apr2001.pdf)

<sup>31</sup> Gasoline\_Distribution\_Stage I\_Documentation\_2011: <ftp://ftp.epa.gov/EmisInventory/2011nei/doc/>

gasoline from tank trucks to storage tanks at the service station and released into the atmosphere. These Stage I processes are subject to EPA's maximum available control technology (MACT) standards for gasoline distribution. Emissions from gasoline distribution at bulk terminals and bulk plants take place when gasoline is loaded into a storage tank or tank truck, from working losses (for fixed roof tanks), and from working losses and roof seals (for floating roof tanks). Working losses consist of both breathing and emptying losses. The procedures and equations discussed for the categories of bulk gasoline terminals listed above are based on EIIP.

Total gasoline distribution is used as the activity. The Federal Highway Administration (FHWA) annually publishes Highway Statistics, which contains gasoline consumption data for each state. County-wide estimates can be made by apportioning these statewide totals by the percentage of state gasoline station sales occurring within each county. County-wide service station gasoline sales data (dollars of sales, not gasoline volume) are available from the Bureau of the Census's Census of Retail Trade.

Emissions from tank trucks in transit occur when gasoline vapor evaporates from (1) loaded tank trucks during transportation of gasoline from bulk terminals/plants to service stations, and (2) empty tank trucks returning from service stations to bulk terminals/plants. Pipeline emissions result from the valves and pumps found at pipeline pumping stations and from the valves, pumps, and storage tanks at pipeline breakout stations. Stage I gasoline distribution emissions also occur when gasoline vapors are displaced from storage tanks during unloading of gasoline from tank trucks at service stations (Gasoline Service Station Unloading) and from gasoline vapors evaporating from service station storage tanks and from the lines going to the pumps (Underground Storage Tank Breathing and Emptying).

There are no generally accepted activity-based VOC emission factors for the pipelines and bulk terminals sectors because they are generally treated as point sources whose emissions are estimated using site-specific information. For both categories, EPA allocated national VOC emissions in a two-step manner. First, EPA allocated emissions based on 2008 gasoline supply data reported by the U.S. DOE. Next, EPA allocated emissions based on employment data reported in the 2007 County Business Patterns.

The basic equation for emission estimation is:

$$Emissions = Emission\ Factor \times Activity\ Level$$

Detailed equations for category-wise emission estimations are listed below.

### **Gasoline Distribution Stage I, Bulk plant**

Emissions from gasoline distribution at bulk plants take place when gasoline is loaded into a storage tank or tank truck, from working losses (for fixed roof tanks), and from working losses and roof seals (for floating roof tanks). Working losses consist of both breathing and emptying losses.

$$E_{voc} = C_g \times P \times EF_{voc}$$

where:

$E_{voc}$ =National VOC emissions

$C_g$ =National Gasoline consumption

$P$ =proportion passing through bulk plants

$EF_{voc}$ =VOC emission factor

### **Gasoline Distribution Stage I, Submerged Filling and Balanced Submerged Filling**

This category estimates the VOC emissions from displacement of gasoline vapors from the storage tanks during the transfer of gasoline from tank trucks to storage tanks at the service station.

$$E_i = \frac{(G_i \times F_{i,method} \times EF_{method}) + (G_i \times F_{i,method} \times EF_{method})}{2000}$$

where:

$E_i$  = Emissions of VOC in tons per day from tank truck unloading per county  $i$

$G_i$  = Gallons of gasoline sold in county  $i$  during 2011

$F_{i,method}$  = Fraction of gasoline dispensed per county  $i$  per filling method (balanced submerged or submerged) during 2011

$EF_{method}$  = Emission factor per filling method for tank truck unloading

### **Gasoline Distribution Stage I, Pipeline (SCC: 2505040120) and Bulk Terminal**

Pipeline emissions result from the valves and pumps found at pipeline pumping stations and from the valves, pumps, and storage tanks at pipeline breakout stations. Emissions from gasoline distribution at bulk terminals take place when gasoline is loaded into a storage tank or tank truck, from working losses (for fixed roof tanks), and from working losses and roof seals (for floating roof tanks). Working losses consist of both breathing and emptying losses. There are no generally accepted activity based VOC emission factors for the pipelines and bulk terminals sectors because they are generally treated as point sources whose emissions are estimated using site-specific information. For pipelines, EPA allocated emissions to Petroleum Administration for Defense (PAD) Districts based on the total amount of finished motor gasoline moved by pipeline in each PAD in the inventory year. EPA allocated pipeline emissions in each PAD District to counties based on County Business Patterns employment data. Because employment data for NAICS code 48691 (Pipeline Transportation of Refined Petroleum Products) are often withheld due to confidentiality reasons, EPA used the number of employees in NAICS code 42471 (Petroleum Bulk Stations and Terminals) for this allocation.<sup>41</sup>

### **Gasoline Distribution Stage I, Tank Trucks in Transit**

Emissions from gasoline tank trucks in transit include the evaporation of petroleum vapor from loaded tank trucks during transportation of gasoline from bulk plants/terminals to the service stations or other dispensing outlets and from empty tank trucks. These losses are caused by leaking delivery trucks, pressure in the tank, and thermal effects on the vapor and on the liquid.

$$E_{TT} = \frac{(Fuel_i \times A \times EF_{TT})}{2000}$$

$E_{TT}$  = Emissions of VOC in tons per day from tank trucks in transit

$Fuel_i$  = Thousand gallons of fuel sold in County  $i$

$A$  = Throughput adjustment factor

$EF_{TT}$  = Emission factor for tank trucks in transit

### **Gasoline Service Station, Underground Tank Breathing and Emptying**

Underground tank breathing occurs when gasoline is drawn out of the tanks and into the pump lines. During this process air moves into the tank evaporating gasoline and emitting vapors.

Emission factor is the amount of VOC per thousand gallons of fuel throughput.

Point source adjustments: No subtraction of point sources from total emissions is necessary for this category.

Emission calculation:

$$E_{utb} = \frac{(E_i \times EF_{utb})}{2000}$$

where:

$E_{utb}$  = Emissions of VOC in tons per day from underground tank breathing and emptying

$F_i$  = Thousand gallons of fuel sold in County  $i$

$EF_{utb}$  = Emission factor for underground tank breathing and emptying

### **Gasoline Service Stations, Stage II: Total Refueling**

Stage II displacement of gasoline vapors from vehicle gasoline tanks during vehicle refueling is discussed in this category. Refueling emissions have two mechanisms of introducing emissions to the environment: (1) vapor displacement from the vehicle fuel tank during refilling; and (2) gasoline spillage during refueling. For this category, a point source adjustment is not necessary.

Stage II refueling emissions for 2011 and 2014 were estimated by WDNR staff using the EPA's MOVES2014a model with the same activity inputs used for the onroad modeling.

During 2011, a Stage II vapor recovery program (vapor recovery nozzles at gas pumps) was in effect in nine eastern Wisconsin counties, including Sheboygan County. This program, started during the 1990s, was effective in reducing refueling emissions in older vehicles, but was a redundant or even counter-productive in reducing emissions for newer vehicles, because the newer vehicles controlled refueling emissions through onboard refueling vapor recovery

(ORVR) systems.<sup>32</sup> Consequently in April, 2012, new state legislation authorized WDNR to begin the process of removing Stage II vapor recovery requirements when the EPA determined that ORVR was in widespread use. One month later EPA issued a ruling that ORVR was in widespread use. Wisconsin submitted a SIP revision removing Stage II requirements, and EPA approved the revision in November 2013. By 2014, many gasoline stations in the nine eastern Wisconsin counties had removed or decommissioned their Stage II vapor recovery systems. Because of a significant decrease in Stage II systems from 2011 to 2014, WDNR used different Stage II-related inputs to MOVES2014a for those two years.

To model the effects of a Stage II program, MOVES2014a provides the following two inputs: (1) vapor displacement reductions and (2) spillage reductions.

WDNR used a vapor displacement reduction of 56% for 2011. This value is specified in EPA guidance for programs with minimal inspection frequency (less than annual).<sup>33</sup> Because of a significant decrease in Stage II systems by the summer of 2014, WDNR estimated a value of 28% for 2014 (one-half of the 2011 value).

WDNR used a spillage reduction percentage of 50% for 2011. This percentage is the standard percentage used in the MOVES2014a model for all areas in the United States having a Stage II vapor recovery program. Again, WDNR used one-half of the 2011 value for 2014 (25%).

## 2.2.16 Waste Disposal

SCC	SCC Level 1	SCC Level 2	SCC Level 3	SCC Level 4
2610000100	Waste Disposal, Treatment, and Recovery	Open Burning	All Categories	Yard Waste-Leaf
2610000400	Waste Disposal, Treatment, and Recovery	Open Burning	All Categories	Yard Waste-Brush
2610000500	Waste Disposal, Treatment, and Recovery	Open Burning	All Categories	Land Clearing Debris
2610030000	Waste Disposal, Treatment, and Recovery	Open Burning	Residential	Household Waste
2630020000	Waste Disposal, Treatment, and Recovery	Wastewater Treatment	Public Owned	Total Processed

Waste disposal covers a wide range of source categories, from incineration, open burning, landfills, wastewater treatment, soil and groundwater remediation, scrap and waste materials, hazardous waste treatment storage and disposal facilities (TSDFs), and leaking underground storage tanks.

## Open Burning of Leaf and Brush Species

Emissions for leaves and residential brush were calculated separately, since emission factors vary by yard waste type. The amount of leaf and brush waste burned was estimated using data

<sup>32</sup> The federally-required phase in for ORVR systems started with model year 1998 and was required for all light-duty vehicles by model year 2006.

<sup>33</sup> “Procedures for Emission Inventory Preparation; Volume IV: Mobile Sources”, Section 3.3.6.1, U.S. EPA, EPA-420-R-92-009, December 1992. (The reduction percentages in this document and section are specified for use in the EPA’s current technical guidance for the MOVES model: “MOVES2014 and MOVES2014a Technical Guidance: Using MOVES to Prepare Emission Inventories for State Implementation Plans and Transportation Conformity”, EPA-420-B-15-093, November 2015.)

from EPA's report *Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2010*.<sup>34</sup> Emission factors for CAPs were developed by the U.S. Environmental Protection Agency (EPA) in consultation with the ERTAC.<sup>35</sup> County-level criteria pollutant and HAP emissions were calculated by multiplying the total amount of yard waste (either leaf or brush) burned per year by an emission factor.

### **Open Burning of Land Clearing Debris**

Open burning of land clearing debris is the purposeful burning of debris, such as trees, shrubs, and brush, from the clearing of land for the construction of new buildings and highways. Criteria air pollutant (CAP) and hazardous air pollutant (HAP) emission estimates from open burning of land clearing debris are a function of the amount of material or fuel subject to burning per year. County-level criteria pollutant and HAP emissions were calculated by multiplying the total mass of land clearing debris burned per year by an emission factor. As activity data, the amount of material burned was estimated using the county-level total number of acres disturbed by residential, non-residential, and road construction. Emission factors for CAPs were developed by the U.S. Environmental Protection Agency (EPA) in consultation with the ERTAC. County-level weighted loading factors were applied to the total number of construction acres to convert acres to tons of available fuel.

### **Open Burning of Municipal Solid Waste (MSW)**

Open burning of residential municipal solid waste (MSW) is the purposeful burning of MSW in outdoor areas. The amount of household MSW burned was estimated using data from EPA's report *Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2010*.<sup>29</sup> Since open burning is generally not practiced in urban areas, only the rural population of each county was assumed to practice open burning. The county-level rural population was then multiplied by the per capita household waste subject to burning to determine the amount of rural household MSW generated in each county in 2010. Emission factors for CAPs were developed by the U.S. Environmental Protection Agency (EPA) in consultation with the ERTAC. County-level criteria pollutant and HAP emissions were calculated by multiplying the total amount of residential municipal solid waste burned per year by an emission factor.

### **Publicly Owned Treatment Work (POTW)**

For 2011 NEI, WDNR adopted the EPA-developed data for emissions from publicly owned treatment work category. Due to resource constraints, POTW emissions were not estimated for the 2011 NEI. The emissions from 2008 NEI were assumed to be similar in nature and were used

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<sup>34</sup> U.S. Environmental Protection Agency, *Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2010*, "Tables 1 and 2. Materials Generated in the Municipal Waste Stream, 1960 to 2010," December 2011, available at [http://www.epa.gov/epawaste/nonhaz/municipal/pubs/2010\\_MSW\\_Tables\\_and\\_Figures\\_508.pdf](http://www.epa.gov/epawaste/nonhaz/municipal/pubs/2010_MSW_Tables_and_Figures_508.pdf) (accessed April 2012).

<sup>35</sup> Huntley, Roy, U.S. Environmental Protection Agency, "state\_comparison ERTAC SS\_version7\_3 Oct 20 2009 [electronic file]," November 5, 2009.

in lieu of recalculated emissions. The below describes the methods used in the 2008 NEI EPA estimates for POTWs.

Publicly Owned Treatment Works (POTWs) means a treatment works that is owned by a state, municipality, city, town, special sewer district, or other publicly owned and financed entity as opposed to a privately (industrial) owned treatment facility. The definition includes intercepting sewers, outfall sewers, sewage collection systems, pumping, power, and other equipment. The wastewater treated by these POTWs is generated by industrial, commercial, and domestic sources.

The general approach to calculating emissions for POTWs is to estimate the POTW flow rate using methods described below and then multiply the estimated flow rate by the emission factors for VOCs, ammonia, and numerous HAPs. The emissions are allocated to the county level using methods described below. It is important to note that the emission estimates for this category represent total emissions. It may be necessary to determine whether there are point source emissions in SCCs 50100701 through 50100781 and 50100791 through 50182599 that need to be subtracted to yield the nonpoint source emission estimates for this category.

Flow rate, measured in million gallons per day, is considered as the activity. A nationwide projected flow rate in 2010 of 39,780 million gallons per day (MMGD) was available from an EPA report.<sup>36</sup> Of this, POTWs account for 98.5 percent of the flow rate or 39,180 MMGD, with privately owned treatment works accounting for the rest. The EPA Clean Watersheds Needs Survey reports the existing flow rate in 2004 for POTWs as 34,370 MMGD.<sup>37</sup> The interpolated 2008 nationwide flow rate (using a linear regression) was calculated at 37,580 MMGD, or 13,754,280 million gallons annually. Emissions were allocated to the county-level by the county proportion of the U.S. population.<sup>38</sup>

The ammonia emission factor was obtained from a report to EPA [ref 24], while the VOC emission factor was based on a TriTAC (technical advisory committee representing three California associations, for more see: <http://www.tritac.org/>) study [ref 25]. Emission factors for the 53 HAPs were derived using 1996 area source emissions estimates that were provided by the EPA Sector Policies and Programs Division [ref 26] and the 1996 nationwide flow rate [ref 27]. These HAP emission factors were then multiplied by the 2008 to 2002 VOC emission factor ratio (0.85/9.9) to obtain the final HAP emission factors applied in the 2008 inventory.

### **Adjustment for point sources**

It is important to note that the emission estimates for this category represent total emissions. It may be necessary to determine whether there are point source emissions in SCCs 50100701 through 50100781 and 50100791 through 50182599 that need to be subtracted to yield the nonpoint source emission estimates for this category.

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<sup>36</sup> U.S. Environmental Protection Agency, "Wastewater Flow Projections for POTWs and Privately and Federally Owned Treatment Works in 2000, 2005, and 2010," Table A-8 in Biosolids Generation, Use, and Disposal in the United States, EPA530-R-99-009, September 1999.

<sup>37</sup> U.S. Environmental Protection Agency, Clean Watersheds Needs Survey, Ask WATERS Online Database Query Tool, at [http://iaspub.epa.gov/apex/waters/f?p=ASKWATERS:MAIN\\_MENU:0](http://iaspub.epa.gov/apex/waters/f?p=ASKWATERS:MAIN_MENU:0), accessed 19 May 2009.

<sup>38</sup> U.S. Census Bureau, "Population Estimates," at <http://www.census.gov/popest/estimates.html>.



Emission Calculations:

Annual VOC emissions can be calculated using the following equation:

$$E_{POTW} = \frac{F_{i,j} \times EF_{POTW} \times 365}{2000}$$

where:

$E_{POTW}$  = VOC emissions in tons per year

$F_{i,j}$  = Daily flow into POTW  $j$  in county  $i$

$EF_{POTW}$  = VOC emission factor for POTW

**2.2.17 Miscellaneous Non-Industrial not elsewhere classified (NEC)**

The nonpoint sources of this sector include structure and motor vehicle fires, catastrophic/accidental releases, and human and animal cremation (28100x), automotive repair shops (28400x), miscellaneous repair shops (28410x), health services (285000x), fluorescent lamp breakage (28610000x) and swimming pools (286200x). The Wisconsin DNR adopted EPA's estimates for these categories where zero emissions reported in 2011 NEI.

## 2.3 Onroad Mobile Sources

Onroad mobile sources are motorized mobile equipment that are primarily used on public roadways. Examples of onroad mobile sources include cars, trucks, buses and road motorcycles. The emissions reported in this document were estimated by the Motor Vehicle Emission Simulator (MOVES), the EPA's recommended mobile source model. The version used was MOVES2014a. All estimates were made in accordance with the following EPA technical guidance:

- MOVES2014a User's Guide (U.S. EPA, Office of Transportation and Air Quality, Assessment and Standards Division, November 2015, EPA 420-B-15-095).
- MOVES2014 and MOVES2014a Technical Guidance: Using MOVES to Prepare Emission Inventories for State Implementation Plans and Transportation Conformity (U.S. EPA, Office of Transportation and Air Quality, Assessment and Standards Division, November 2015, EPA-420-B-15-093).

The onroad mobile NO<sub>x</sub> and VOC emissions for Sheboygan County for 2011 and 2014 (as well as the 2020 and 2030 projections) are presented in Appendix 8, broken down by source type (vehicle class), fuel type and road type. Tables summarizing vehicle activity data are presented in Appendix 8 after the emissions tables.

### 2.3.1 Transportation Data

The modeling inputs to MOVES include detailed transportation data (e.g., vehicle-miles of travel by vehicle class, road class and hour of day, and average speed distributions), requiring support from the state agency conducting transportation modeling in Sheboygan County, the Wisconsin Department of Transportation (WDOT). WDOT maintains transportation network inventory data for the state. WDOT has developed and validated travel simulation models to estimate and forecast vehicle-miles of travel (VMT) and average speed distributions for the state, including detailed data for Sheboygan County.

WDOT provided to WDNR their most recent transportation modeling data for Sheboygan County on October 14, 2016. The data covers the five years 2010, 2015, 2025, 2035 and 2045. For each of these years, the data includes average weekday vehicle-miles of travel (VMT), vehicle-hours of travel (VHT) and average speed; all broken down by 14 5-mph speed bins within 13 roadway classes within two general vehicle classes. For these data "weekday" includes only the three middle weekdays (Tuesday, Wednesday and Thursday).

The 14 speed bins are: 0-5 mph, 5-10 mph, ..., 60-65 mph and 65+ mph.

The 13 roadway classes are:

- Interstate
- Freeway
- Ramp
- Expressway
- Urban Principal Arterial
- Urban Minor Arterial

- Urban Collector
- Urban Local
- Rural Principal Arterial
- Rural Minor Arterial
- Rural Major Collector
- Rural Minor Collector
- Rural Local

The two general vehicle classes are: Auto and Truck

## 2.3.2 Descriptions of MOVES Modeling Inputs

### 2.3.2.1 Vehicle-Miles of Travel (VMT)

WDNR made the following adjustments to the 2010 VMT provided by WDOT to develop 2011 and 2014 VMT estimates for input to MOVES2014a:

- **2010 to 2011:** The 2010 average weekday (Tuesday-Thursday) VMT provided by WDOT was 2,731,175. VMT data reported by WDOT (see: <http://wisconsindot.gov/Pages/projects/data-plan/veh-miles/default.aspx>) indicates that VMT in Sheboygan County was about 3.1% lower in 2011 than in 2010 (average annual day VMT of 2,706,644 in 2010 and 2,622,748 in 2011). Thus, the 2010 average weekday (Tu-Th) VMT provided by WDOT was adjusted down by about 3.1% to 2,646,519.
- **2010 to 2014:** The 2010 average weekday (Tuesday-Thursday) VMT provided by WDOT was 2,731,175. VMT data reported by WDOT (see: <http://wisconsindot.gov/Pages/projects/data-plan/veh-miles/default.aspx>) indicates that VMT in Sheboygan County was about 6.0% lower in 2014 than in 2010 (average annual day VMT of 2,706,644 in 2010 and 2,544,193 in 2014). Thus, the 2010 average weekday (Tu-Th) VMT provided by WDOT was adjusted down by about 6.0% to 2,567,252.
- **Average weekday (Tuesday-Thursday) to summer weekday (Monday-Friday):** As recommended in the EPA technical guidance, the onroad inventories for ozone SIPs are based on *summer* weekday VMT, where “weekday” includes all five of the weekdays. Statewide VMT summaries by day-of-week and month-of-year provided by WDOT during June of 2014 indicate that VMT on a July weekday (Mon-Fri) is about 16% greater than VMT on an average weekday (Tue-Thur). WDNR ran MOVES2014a using temporal adjustment factors that resulted in a summer (July) weekday (Mon-Fri) VMT of **3,077,240 for 2011 and 2,985,074 for 2014**, which are both 16.3% greater than the average weekday (Tue-Thur) VMTs of 2,646,519 for 2011 and 2,567,252 for 2014.
- **Two vehicle classes to five classes:** WDOT provided VMT data for two general vehicle classes (Auto and Truck). The MOVES model requires that VMT be broken down further. For example, the VMT can be broken down to the five Highway Performance Monitoring System (HPMS) classes of:
  - 10 - Motorcycles

- 25 - Light Duty Vehicles
- 40 - Buses
- 50 - Single Unit Trucks
- 60 - Combination Trucks

WDOT verified to WDNR that their class of “Auto” corresponds to HPMS classes 10 and 25 and their class of “Truck” corresponds to HPMS classes of 40, 50 and 60. Thus, WDNR allocated the VMT in the two WDOT classes to the five HPMS classes by utilizing the MOVES2014a default VMT distribution for Sheboygan County for those five HPMS classes.

#### **2.3.2.2 VMT by Hour of Day**

WDNR used the MOVES2014a default hourly VMT distributions.

#### **2.3.2.3 Vehicle Population**

WDNR estimated vehicle populations for each vehicle class by dividing annual VMT by the MOVES defaults for average annual mileage accumulation.

#### **2.3.2.4 Average Speed Distribution**

WDNR adjusted the 14-bin speed distribution provided by WDOT to the 16-bin speed distribution required by the MOVES model. Since the speed limit for interstate highways in Sheboygan County was lower in 2011 and 2014 (65 mph) than presently (70 mph), WDNR did not allocate any of the VMT in the WDOT’s highest speed bin (65+ mph) to the highest speed bin in MOVES (72.5 mph to 77.5 mph).

#### **2.3.2.5 Vehicle Age Distribution**

Local vehicle age distributions were developed for five source types: passenger cars, passenger trucks, light commercial trucks, intercity buses and school buses. The EPA default distributions were used for the other eight source types: motorcycles, transit buses and six medium to heavy truck classes. WDNR calculated the local distributions from a file of select fields from the state’s registration database as of March 2014, provided by the WDOT. WDNR calculated a 2014 distribution for a seven county region including Sheboygan County. WDNR adjusted the 2014 distributions back to 2011 based on differences between the EPA default age distributions for those two years.

#### **2.3.2.6 Road Type Distribution**

MOVES requires that VMT for each of the 13 source types (see section 2.3.2.5) be allocated to the following four roadway classes:

- Rural – Restricted Access
- Rural – Unrestricted Access
- Urban – Restricted Access
- Urban – Unrestricted Access

For each of the two WDOT vehicle classes (Auto and Truck), WDNR allocated VMT from the 13 WDOT roadway classes to the 4 MOVES roadway classes as follows:

**Table A2.4. Allocation of VMT to the Four MOVES Roadway Classes.**

WDOT Roadway Class	MOVES Roadway Class			
	Rural Restricted	Rural Unrestricted	Urban Restricted	Urban Unrestricted
Interstate	71.65%		28.35%	
Freeway	10.44%		89.56%	
Ramp	60.68%		39.32%	
Expressway	10.44%		89.56%	
Urban Principal Arterial				100%
Urban Minor Arterial				100%
Urban Collector				100%
Urban Local				100%
Rural Principal Arterial		100%		
Rural Minor Arterial		100%		
Rural Major Collector		100%		
Rural Minor Collector		100%		
Rural Local		100%		

Since the WDOT's four restricted access classes (Interstate, Freeway, Ramp and Expressway) do not have a rural/urban breakdown, WDNR calculated the rural/urban splits from a WDOT 2011 VMT summary for Sheboygan County, which did have VMT broken down by rural and urban for all roadway classes.

The resulting road type distributions for the two vehicle classes of Auto and Truck were then allocated to distributions for each of the 13 MOVES source types by utilizing the MOVES2014a default road type distributions for Sheboygan County for those 13 source types.

#### **2.3.2.7 Ramp Fraction**

The WDOT transportation modeling data included VHT values for ramp travel, allowing WDNR to calculate the ramp fractions.

#### **2.3.2.8 Fuel Formulation and Supply**

The MOVES defaults currently provide the best available fuel data and therefore were used.

#### **2.3.2.9 Vehicle Inspection and Maintenance Program**

Sheboygan County is within the seven-county southeastern Wisconsin vehicle inspection program region. On-Board Diagnostic (OBD) checks were assumed for most model year 1996 and newer passenger cars, passenger trucks and light commercial trucks.

#### **2.3.2.10 Meteorology Data**

Temperatures conducive to peak ozone formation were assumed for the summer weekday modeling. The WDNR has consistently used the same minimum and maximum temperatures for onroad modeling for ozone state implementation plans (SIP's) since the early 1990's. The temperatures were developed from an analysis of peak ozone days and have minimum/maximum values of 65/93 degrees Fahrenheit for Sheboygan County.

## **2.4 Nonroad Mobile Sources**

Nonroad mobile sources are motorized mobile equipment and other small and large engines that are primarily used off public roadways. Examples of nonroad mobile sources include commercial marine, construction, lawn and garden, locomotive and agricultural equipment.

For purposes of inventory calculation, nonroad mobile sources are divided into two major groups:

- Commercial Marine, Aircraft and Rail Locomotive (MAR)
- All other nonroad categories

Nonroad categories other than MAR include:

- Recreational vehicles
- Construction equipment
- Industrial equipment
- Lawn and garden equipment
- Agricultural equipment
- Commercial equipment
- Logging equipment
- Underground mining equipment
- Oil field equipment
- Pleasure craft
- Railway maintenance equipment

A detailed listing of the nonroad emissions for each of the over 200 nonroad source subcategories, which include both the MAR and non-MAR subcategories, is presented in Appendix 7.

### **2.4.1 Non-MAR Sources**

The 2011 and 2014 nonroad emissions for the non-MAR categories were developed using the EPA's MOVES2014a model, using hot summer day temperatures. The model was run for Sheboygan County for the months of June, July and August. Hot summer day emissions were calculated by dividing the total emissions over these three months by 92 (the number of days in the three months).

### **2.4.2 MAR Sources – Aircraft and Rail Locomotive**

Annual emissions for the MAR categories were obtained from the EPA's 2011 Emissions Modeling Platform, Version 6.3. This modeling platform provides countywide annual emission estimates for the year 2011 and projections for the years 2017 and 2023. Emissions for the year 2014 were obtained by linearly interpolating between the emissions for the years 2011 and 2017.

Summer day emissions for these two MAR categories were estimated by applying annual-to-summer-day ratios from inventories by the Lake Michigan Air Directors Consortium (LADCO) for the year 2007. These ratios (annual/summer day) are:

- Aircraft: 361.11 for NO<sub>x</sub>; 357.35 for VOC
- Rail Locomotive: 362.00 for both NO<sub>x</sub> and VOC

#### **2.4.3 MAR Sources – Commercial Marine Vessels**

For this category, the emissions from the EPA's 2011 Emissions Modeling Platform, Version 6.3 were not directly used since more current data, with a much more refined geographical allocation<sup>39</sup>, were available for the year 2014 from the Lake Michigan Air Directors Consortium (LADCO).

For year 2014, WDNR used the LADCO values. For the other years (2011 and the projection years of 2020 and 2030) WDNR adjusted the LADCO values based on the proportional changes in commercial marine emissions over time for Ozaukee County<sup>40</sup>.

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<sup>39</sup> The EPA's modeling platform has zero commercial marine emissions for Sheboygan County. Instead the platform allocated the commercial marine emissions in Lake Michigan east of Sheboygan County to the Michigan side of the lake, reflecting a single general shipping lane on the lake.

<sup>40</sup> Ozaukee County was used instead of Sheboygan since the modeling platform has zero commercial marine emissions for Sheboygan County.



## **APPENDIX 3**

### **2020 and 2030 Wisconsin Emissions Projections Documentation – Methodology**

## Sheboygan County Redesignation Request

This appendix provides information for the sector-specific NO<sub>x</sub> and VOC tons per summer day (tpsd) emission estimates in section 4.3 (Maintenance Year Inventories) of the Wisconsin Department of Natural Resources (WDNR) Sheboygan County redesignation request. For the U.S. Environmental Protection Agency (EPA) to redesignate a nonattainment area to attainment, a state is required to demonstrate continued maintenance of the NAAQS for ten years after redesignation. As part of this demonstration, the WDNR is providing a projection of emissions for 2020 as the interim projection year and 2030 as the maintenance year. The emission projections through 2030 are relied upon in the maintenance demonstration presented in Section 7 of the WDNR Sheboygan County redesignation request.

This appendix includes:

1.	EGU Inventory Methodology for 2020 and 2030.....	3
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**1. EGU Inventory Methodology for 2020 and 2030**

See Appendix 4 for the projection methodology related to EGUs.

## 2. Point Non-EGU Inventory Methodology for 2020 and 2030

Non-EGU point source emissions are projected for 2020 and 2030 by applying growth factors to the 2011 base year inventory, as well as considering new and modified sources. A detailed description of the methodology is provided below, and a list of sources with the applied growth rates and calculated emissions is provided in Appendix 5.

### 2.1. Growth Factors from AEO 2014/2016 for Existing Sources

Non-EGU point source projected 2020 and 2030 emissions were derived by first applying growth factors to the 2011 base year inventory. These growth factors were developed from Annual Energy Outlook (AEO) 2014 and AEO 2016 industry-specific energy consumption data, summarized in Table A3.1. Growth in energy consumption was assumed to correspond linearly with growth in emissions. A second step in projecting emissions – accounting for potential emissions increases resulting from the modification of existing sources or the installation of new sources – is described in section 3.2.2 below.

**Table A3.1. Growth Factors from AEO 2014/2016 Used for Projecting Wisconsin Non-EGU Point Source Emissions in Sheboygan County.**

NAICS	NAICS Description	AEO 2014/2016 Industrial or Commercial Sub-sector <sup>1</sup>	AEO 2014/2016 Energy Consumption (trillion Btu) <sup>1,2</sup>			Growth Factor (from 2011) <sup>3</sup>	
			2011	2020	2030	2020 GF	2030 GF
6221	General Medical and Surgical Hospitals	Commercial sector energy consumption (natural gas and distillate fuel oil) for East North Central U.S.	0.75	0.78	0.78	1.04	1.04
21232	Sand, Gravel, Clay, and Ceramic and Refractory Minerals Mining and Quarrying	Non-manufacturing Industry - Mining	2,466	3,198	3,594	1.30	1.46
32192	Wood Container and Pallet Manufacturing	Other Manufacturing - Wood Products	273	367	396	1.34	1.45
32199	All Other Wood Product Manufacturing	Other Manufacturing - Wood Products	273	367	396	1.34	1.45
32221	Paperboard Container Manufacturing	Paper Industry	2,018	1,682	1,877	0.83	0.93
32311	Printing	Paper Industry	2,018	1,682	1,877	0.83	0.93

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NAICS	NAICS Description	AEO 2014/2016 Industrial or Commercial Sub-sector <sup>1</sup>	AEO 2014/2016 Energy Consumption (trillion Btu) <sup>1,2</sup>			Growth Factor (from 2011) <sup>3</sup>	
			2011	2020	2030	2020 GF	2030 GF
32521	Resin and Synthetic Rubber Manufacturing	Bulk Chemical Industry	2,441	2,870	3,137	1.18	1.29
32551	Resin and Synthetic Rubber Manufacturing	Bulk Chemical Industry	2,441	2,870	3,137	1.18	1.29
32612	Plastics Pipe, Pipe Fitting, and Unlaminated Profile Shape Manufacturing	Other Manufacturing - Plastics	302	320	346	1.06	1.15
32615	Urethane and Other Foam Product (except Polystyrene) Manufacturing	Other Manufacturing - Plastics	302	320	346	1.06	1.15
32619	Other Plastics Product Manufacturing	Other Manufacturing - Plastics	302	320	346	1.06	1.15
33151	Foundries - Steel	Iron and Steel Industry	1,362	1,073	1,269	0.79	0.93
33211	Forging and Stamping	Metal Based Durables Industry - Fabricated Metal Products	331	331	323	1.00	0.98
33232	Ornamental and Architectural Metal Products Manufacturing	Metal Based Durables Industry - Fabricated Metal Products	331	331	323	1.00	0.98
33299	All Other Fabricated Metal Product Manufacturing	Metal Based Durables Industry - Fabricated Metal Products	331	331	323	1.00	0.98
33329	Industrial Machinery Manufacturing	Metal Based Durables Industry - Machinery	177	188	233	1.06	1.31
33531	Electrical Equipment Manufacturing	Metal Based Durables Industry - Electrical Equipment	69	107	127	1.56	1.84
33639	Other Motor Vehicle Parts Manufacturing	Metal Based Durables Industry - Transportation	330	374	396	1.13	1.20
311514	Dry, Condensed, and Evaporated Dairy Product Manufacturing	Food Industry	1,114	1,274	1,408	1.14	1.26
311612	Meat Processed from Carcasses	Food Industry	1,114	1,274	1,408	1.14	1.26
322211	Corrugated and Solid Fiber Box	Paper Industry	2,018	1,682	1,877	0.83	0.93

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NAICS	NAICS Description	AEO 2014/2016 Industrial or Commercial Sub-sector <sup>1</sup>	AEO 2014/2016 Energy Consumption (trillion Btu) <sup>1,2</sup>			Growth Factor (from 2011) <sup>3</sup>	
			2011	2020	2030	2020 GF	2030 GF
	Manufacturing						
325188	Other Basic Inorganic Chemical Manufacturing	Bulk Chemical Industry	2,441	2,870	3,137	1.18	1.29
325991	Custom Compounding of Purchased Resins	Bulk Chemical Industry	2,441	2,870	3,137	1.18	1.29
326140	Polystyrene Foam Product Manufacturing	Other Manufacturing - Plastics	302	320	346	1.06	1.15
331314	Secondary Smelting and Alloying of Aluminum	Aluminum Industry	351	393	428	1.12	1.22
331524	Aluminum Foundries (except Die-Casting)	Aluminum Industry	351	393	428	1.12	1.22
333291	Metal Valve Manufacturing	Metal Based Durables Industry - Machinery	177	188	233	1.06	1.31
333618	Other Engine Equipment Manufacturing	Metal Based Durables Industry - Machinery	177	188	233	1.06	1.31
611310	Colleges, Universities, and Professional Schools	Commercial sector energy consumption (natural gas and distillate fuel oil) for East North Central U.S.	0.75	0.78	0.78	1.04	1.04
622110	General Medical and Surgical Hospitals	Commercial sector energy consumption (natural gas and distillate fuel oil) for East North Central U.S.	0.75	0.78	0.78	1.04	1.04

<sup>1</sup> Source: <http://www.eia.gov/forecasts/aeo/index.cfm>

<sup>2</sup> 2011 energy consumption values are from AEO 2014; 2020 and 2030 projected energy consumption values are from AEO 2016.

<sup>3</sup> Growth factors for the entire 2011-2020 and 2011-2030 periods were calculated by dividing the 2020 or 2030 energy consumption values by the 2011 energy consumption value. If energy consumption values were not available from AEO for a NAICS category, a growth factor of 1.00 (i.e., no growth) was applied.

## 2.2. Modified and New Source Emissions

Section 172(c)(4) of the Clean Air Act (CAA) requires identification and quantification of potential emissions from new or modified sources when developing emission inventories for attainment and maintenance purposes. The point source emissions inventory described in section 2.1 above includes projections of emissions growth determined by applying general regional growth factors. However, this methodology alone does not distinguish emissions associated with modified and new sources. Therefore, as a second step the WDNR reviewed permitting actions for sources in Sheboygan County from 2010 to 2015 (five years). A summary of the permitting activity and associated potential emissions is shown in Table A3.2. The resulting emissions from this exercise are added to the projected emissions for *existing* point source non-EGU, to yield the *total* projected point source non-EGU emissions for 2020 and 2030 found in section 4.3 of the Sheboygan County redesignation request (see also Appendix 5, Table A5.2 for the addition of new/modified sources to existing sources). This approach may add emissions which overlap with existing source grown emissions, but it provides a more conservative estimate of future emissions. It should be noted that this future projection of emissions does not limit the amount of future emissions allowed from modified and new sources. This is consistent with the CAA which allows for the installation of new or modification of sources subject to requirements of the New Source Review (NSR) or Prevention of Significant Deterioration (PSD) programs.

**Table A3.2. Permitting Actions for Existing Source and New Emission Sources – 2010 to 2015.**

Construction Permit Class	Year	Potential Emissions Increase (TPY)		Estimated Daily Average (TPD) <sup>1</sup>		Project Description
		NO <sub>x</sub>	VOC	NO <sub>x</sub>	VOC	
Minor action <sup>2</sup>	2012	0.00	53.1	-	0.145	Installation of stain spray booths, dye/toner spray booth, and sealer/topcoat spray booth
Minor action <sup>2</sup>	2014	50	39.8	0.137	0.109	Installation of generator reliability test cells
Minor action <sup>2</sup>	2014	0.00	31.87	-	0.087	Installation of presses to process low pentane bead shaped product; installation of pre-expander; installation of natural gas boiler (12 mmBtu/hr capacity)
<b>Total</b>	---	<b>50</b>	<b>125</b>	<b>0.14</b>	<b>0.34</b>	---

<sup>1</sup> The tons per day (TPD) daily emissions are calculated by dividing annual potential emissions by 365 days. These are also assumed to be equivalent to tons per summer day (tpsd) emissions.

<sup>2</sup> A minor action is a permitting action that falls below the major source threshold of 100 tons per year (TPY) or significant emissions increase threshold of 40 TPY.

### **3. Area Source Inventory Methodology for 2020 and 2030**

EPA's 2011 Emissions Modeling Platform, Version 6.2 includes projections for the years 2017 and 2025.<sup>1</sup> Wisconsin's 2020 area source emissions were estimated primarily by interpolating between EPA's 2017 and 2025 modeling inventories, while 2030 area source emissions were estimated primarily by extrapolating EPA's 2017 and 2025 modeling inventories. The exception is that WDNR staff projected emissions from vehicle refueling at gasoline stations (Stage II refueling) using EPA's MOVES2014a model with the same activity inputs used for the onroad modeling. Unlike 2011 and 2014, no Stage II vapor recovery program was modeled for 2020 and 2030. Owing to most vehicles now having their own vapor recovery system, called onboard refueling vapor recovery or ORVR, Stage II controls at the pump are largely redundant or even counter-productive. Wisconsin submitted a SIP revision removing Stage II requirements, and EPA approved the revision in November 2013. Even without a Stage II program in the projection years, emissions from Stage II refueling are less in 2020 and 2030 than in 2011 and 2014, owing to the larger percentage of vehicles having ORVR.

The projected area source emissions can be found in Appendix 6.

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<sup>1</sup> <ftp://ftp.epa.gov/EmisInventory/2011v6/v2platform/2017emissions/>



#### 4. Onroad Inventory Methodology for 2020 and 2030

The 2020 and 2030 projected onroad emissions were developed using the MOVES2014a model, as was the case for the 2011 and 2014 emissions. Unless otherwise stated in this appendix, the methodology WDNR used for 2020 and 2030 is the same methodology WDNR used for years 2011 and 2014, as described in Appendix 2.

Vehicle age distributions were projected from a base 2014 distribution using the Age Distribution Projection Tool developed by the EPA (see: <https://www.epa.gov/moves/tools-develop-or-convert-moves-inputs>). This macro-based excel file projects a base year age distribution by source type to a future distribution using a similar algorithm to what EPA used to generate the national projected age distributions in MOVES2014a.

The Wisconsin Department of Transportation (WDOT) provided WDNR transportation data for the years 2010, 2015, 2025, 2035 and 2045 for an average annual weekday (where “weekday” consists of the middle three days of the workweek: Tuesday, Wednesday and Thursday). These datasets show a VMT growth rate for Sheboygan County of about 0.67% per year from 2010 to 2015, about 0.64% per year from 2015 to 2025, about 0.60% per year from 2025 to 2035 and about 0.56% per year from 2035 to 2045. As described in Appendix 2, WDNR calculated 2011 and 2014 VMT using the WDOT-reported change in VMT from 2010 to 2011 (about a 3.1% decrease) and 2010 to 2014 (about a 6.0% decrease). WDNR calculated 2020 and 2030 VMT by linearly interpolating between 2015, 2025 and 2035. As described in Appendix 2, WDNR increased the average weekday (Tu-Th) VMT by about 16.3% to obtain summer weekday (Mo-Fr) VMT. Table A3.3 shows the average weekday (Tu-Th) VMT values provided by WDOT (or, for 2011, 2014, 2020 and 2030, calculated by WDNR) and the summer weekday (Mo-Fr) VMT values outputted by MOVES2014a.

**Table A3.3. Vehicle-Miles of Travel for Sheboygan County**

Year	Vehicle-Miles of Travel	
	Average Weekday (Tu-Th)	Summer Weekday (Mo-Fr)
2010	2,731,175	Not Calculated
2011	2,646,519	3,077,240
2014	2,567,252	2,985,074
2015	2,823,472	Not Calculated
2020	2,915,954	3,390,525
2025	3,008,435	Not Calculated
2030	3,100,917	3,605,590
2035	3,193,399	Not Calculated
2045	3,378,362	Not Calculated

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Unlike the speed distribution for 2011, the speed distributions for 2020 and 2030 did include positive values for the highest speed bin in MOVES (72.5 mph to 77.5 mph) for restricted access travel. This change reflected the 5 mph speed limit increase (65 mph to 70 mph) which took effect in 2015 on certain restricted access roadways throughout Wisconsin, including Interstate Highway 43 in Sheboygan County. MOVES2014a predicts an increase in NO<sub>x</sub> and VOC emissions from this increase in speed.

Emissions were increased by a 15% safety margin, as agreed through the transportation conformity consultative process.

The motor vehicle I/M program was assumed to remain in effect for 2020 and 2030.

Detailed listing of the projected onroad emissions and activity data are provided in Appendix 8.

## **5. Nonroad Inventory Methodology for 2020 and 2030**

The methodology for the 2020 and 2030 projected nonroad emissions is parallel to the methodology used for the 2011 and 2014 estimates, as described in Appendix 2.

For all source categories except commercial marine, aircraft and rail locomotive (MAR), the MOVES2014a model was run for Sheboygan County at hot summer day temperatures, assuming the model's default growth projections.

For the two MAR categories of aircraft and rail locomotive, the 2020 and 2030 emissions were calculated by linearly interpolating or extrapolating from the 2017 and 2023 values from EPA's 2011 Emissions Modeling Platform, Version 6.3.

As was the case for 2011, the Platform's 2017 and 2023 commercial marine emissions for Sheboygan County were zero, with those emissions to the east of Sheboygan County allocated to the Michigan side of Lake Michigan, reflecting a single general shipping lane on the lake. Instead the WDNR used the newer commercial estimates provided by the Lake Michigan Air Directors Consortium as described in Appendix 2.

Detailed listings of the projected nonroad emissions for over 200 subcategories are provided in Appendix 7.

## **APPENDIX 4**

### **EGU Inventory Methodology and Emissions for 2011, 2014, 2020 and 2030**

This appendix provides the methodology for electric generating unit (EGU) sector NO<sub>x</sub> and VOC tons per summer day (tpsd) emission estimates in sections 4.2 (Nonattainment Year and Attainment Year Inventories) and 4.3 (Maintenance Year Inventories) of the Wisconsin Department of Natural Resources (WDNR) Sheboygan County redesignation request for the 2008 ozone standard.

### **1. EGU 2011 and 2014 Base Year Emissions**

There are two EGU point source facilities located in Sheboygan County: the Edgewater coal-fired power plant and the Sheboygan Falls natural gas fired power plant. The 2011 and 2014 NO<sub>x</sub> emissions, emission rates and fuel consumption for the generating units at these facilities were derived from data reported by the utility to EPA's Clean Air Markets Division (CAMD) database. WDNR used the ozone season day with the 99<sup>th</sup> percentile highest heat input for each unit at each facility during the ozone season to represent summer day operations during the 2011 and 2014 ozone seasons. Using this 99<sup>th</sup> percentile value provides a conservative but reasonable representation of maximum summer day operation.

The summer day emissions were then calculated by multiplying the maximum summer day heat inputs in 2011 and 2014 by the average emission rates for the 2011 and 2014 ozone seasons. The NO<sub>x</sub> emission rates were derived from the CAMD emissions data for the 2011 and 2014 ozone seasons. This base data and the tons per summer day emissions calculated from this data are provided in Tables A4.1 and A4.2. In 2011, the total NO<sub>x</sub> emissions were 13.16 tpsd for Edgewater and 0.48 tpsd for Sheboygan Falls. In 2014, the total NO<sub>x</sub> emissions were 6.31 tpsd for Edgewater and 0.53 tpsd for Sheboygan Falls.

The 2011 and 2014 VOC summer day emissions are also derived by multiplying the maximum day heat inputs by average VOC emission rates. The base data used in the calculation and the resulting emissions are provided in Tables A4.1 and A4.2. In this case, however, VOC emissions are not monitored by continuous emissions monitors and reported to the CAMD database as is done for NO<sub>x</sub>. Therefore, the VOC emission rates were derived by dividing the annual VOC emissions reported to the WDNR Air Emissions Inventory (AEI) by the annual heat input reported to the CAMD database for 2011 and 2014. The data applied in deriving the VOC emission rates are shown in Table A4.3. Multiplying these VOC emission rates for each year by the maximum heat input resulted in 0.94 tpsd of VOC for Edgewater and 0.04 tpsd for Sheboygan Falls in 2011, and 0.91 tpsd of VOC for Edgewater and 0.06 tpsd for Sheboygan Falls in 2014.

Note: emissions from non-electric generating emission units at the plant (i.e., units other than the three coal boilers at Edgewater or the two natural gas turbines at Sheboygan Falls) are not included because they are insignificant (less than 0.1% of the total plant emissions on a tons per year basis) compared to the boiler or turbine emissions.

**Table A4.1. EGU Summer Day Operation and Emissions in 2011.**

Variable	Edgewater			Sheboygan Falls	
	Unit 3	Unit 4	Unit 5	Unit 1	Unit 2
Summer Day Heat Input (mmBtu) <sup>1</sup>	14,994	68,770	93,778	17,551	17,440
NO <sub>x</sub> Rate (lbs/mmBtu) <sup>2</sup>	0.195	0.141	0.146	0.028	0.026
NO <sub>x</sub> (tpsd)	1.46	4.86	6.84	0.25	0.23
VOC Rate (lbs/mmBtu) <sup>3</sup>	0.0107			0.0025	
VOC (tpsd)	0.94			0.04	

<sup>1</sup> Heat input is for the day with the 99<sup>th</sup> percentile highest heat input during the 2011 ozone season.

<sup>2</sup> Emission rate derived from EPA CAMD ozone season NO<sub>x</sub> emissions and heat input.

<sup>3</sup> Calculated in Table A4.3.

**Table A4.2. EGU Summer Day Operation and Emissions in 2014.**

Variable	Edgewater			Sheboygan Falls	
	Unit 3	Unit 4	Unit 5	Unit 1	Unit 2
Summer Day Heat Input (mmBtu) <sup>1</sup>	0	66,905	102,911	18,064	17,710
NO <sub>x</sub> Rate (lbs/mmBtu) <sup>2</sup>	0	0.140	0.032	0.029	0.030
NO <sub>x</sub> (tpsd)	0	4.68	1.63	0.26	0.27
VOC Rate (lbs/mmBtu) <sup>3</sup>	0.0094			0.0036	
VOC (tpsd)	0.91			0.06	

<sup>1</sup> Heat input is for the day with the 99<sup>th</sup> percentile highest heat input during the 2014 ozone season.

<sup>2</sup> Emission rate derived from EPA CAMD ozone season NO<sub>x</sub> emissions and heat input.

<sup>3</sup> Calculated in Table A4.3.

**Table A4.3. VOC Annual Emissions and Emission Rates in 2011 and 2014.**

Variable	Edgewater		Sheboygan Falls	
	2011	2014	2011	2014
Annual VOC (tons) <sup>1</sup>	110.3	96.9	0.3	0.2
Annual Heat Input (mmBtu) <sup>2</sup>	20,681,023	17,713,203	243,850	95,901
VOC Rate (lbs/mmBtu) <sup>3</sup>	0.0107	0.0109	0.0025	0.0036

<sup>1</sup> Emissions reported to the WDNR Air Emissions Inventory. Edgewater 2014 VOC annual emissions were corrected from 37.5 tons to 96.9 tons, because the emissions from boiler B24 sub-bituminous coal combustion were misreported in Wisconsin's 2014 AEI.

<sup>2</sup> Heat input reported to the CAMD database.

<sup>3</sup> Calculated by the equation (annual VOC tons x 2000 lbs/ton) / annual heat input (mmBtu).

## 2. EGU 2020 and 2030 Projected Emissions

The Edgewater power plant is anticipated to operate at less than its current levels for 2020 and 2030, due to the scheduled retirement of unit 4 by the end of 2018. The Sheboygan Falls power plant is anticipated to continue operation at close to its current levels through 2030. Following the same methodology as used in calculating 2011 and 2014 emissions, WDNR projected

summer day emissions for the power plants by multiplying a projected maximum daily heat input by a projected average ozone season emission rate. The data used in this calculation and resulting emissions are summarized in Table A4.4.

To determine the appropriate projected maximum heat input, the WDNR first evaluated historical maximum day ozone season values for 2011 through 2016 as listed in Tables A4.5 and A4.6. WDNR determined the maximum summer day heat inputs representative of recent operation to be the following: for Sheboygan Falls units 1 and 2, the highest 99<sup>th</sup> percentile daily value over the 2011-2016 period; for Edgewater unit 5, the highest 99<sup>th</sup> percentile daily value over the 2014-2016 period; and for Edgewater units 3 and 4, a heat input of “0”.

The WDNR evaluated historical data and planned operational changes in determining an appropriate NO<sub>x</sub> emission rate for calculating projected emissions. For Edgewater: unit 3 retired in 2013; unit 4 is scheduled to retire by the end of 2018; and unit 5 operated selective non-catalytic reduction (SNCR) from 2011 to 2013 and selective catalytic reduction (SCR) from 2014 to 2016 for controlling NO<sub>x</sub> emissions. Sheboygan Falls units 1 and 2 have operated fairly steadily for the 2011-2016 period. Accordingly, the projected ozone season NO<sub>x</sub> emission rates in Tables A4.5 and A4.6 were determined by averaging the emission rates for the 2011-2016 period for Sheboygan Falls units 1 and 2 and for the 2014-2016 period for Edgewater unit 5. These rates reflect controls as of 2016 and are reasonable, conservative representations of the future expected emission rates.

Based on this information, NO<sub>x</sub> emissions projected for 2020 and 2030 are calculated to be 1.94 tpsd for Edgewater and 0.61 tpsd for Sheboygan Falls. It should be noted that these NO<sub>x</sub> tpsd values are not intended to constitute daily enforceable emission limitations on the power plants. The values represent the best reasonable approximation of the controls in place, a compliance margin, and projected maximum actual summer day emissions that could be expected going into the future. For Edgewater in particular, the NO<sub>x</sub> emission rate limitation for unit 5 is 0.080 lbs/mmBtu on a 30-day rolling average. Multiplying this emission limit by the highest 99<sup>th</sup> percentile daily heat input for the 2014-2016 period (112,385 mmBtu) allows for NO<sub>x</sub> emissions as high as 4.5 tons on any given day.

VOC emissions are calculated by assuming the VOC emission factors of 0.0074 lbs/mmBtu (Edgewater unit 5) and 0.0004 lbs/mmBtu (Sheboygan Falls) demonstrated during the 2015 ozone season will continue through 2030. There is no action anticipated that would significantly reduce these values. Multiplying the maximum day heat input values by these emission rates yields 0.42 tpsd of VOC for Edgewater and 0.01 tpsd of VOC for Sheboygan Falls. The base information used in these calculations and the resulting VOC emissions are shown in Table A4.4.

**Table A4.4. EGU 2020 and 2030 Emissions (tpsd).**

Variable	Projected Values			
	Edgewater			Sheboygan Falls
	Unit 3	Unit 4	Unit 5	Units 1 & 2
Summer Day Heat Input (mmBtu) <sup>1</sup>	Retired	Retired	112,385	43,423
NOx Rate (lbs/mmBtu) <sup>2</sup>	Retired	Retired	0.034	0.028
NOx (tpsd)	Retired	Retired	1.94	0.61
VOC Rate (lbs/mmBtu) <sup>3</sup>	Retired	Retired	0.0074	0.0004
VOC (tpsd)	Retired	Retired	0.42	0.01

<sup>1</sup> Heat input is: for Sheboygan Falls units 1 and 2, the highest 99th percentile daily value over the 2011-2016 ozone seasons; and for Edgewater unit 5, the highest 99th percentile daily value over the 2014-2016 ozone seasons.

<sup>2</sup> Ozone season NOx emission rates derived from EPA CAMD ozone season NOx emissions and heat input.

<sup>3</sup> The VOC projected emission rates are assumed to be the same as the 2015 derived emission rates for Edgewater unit 5 (0.0074 lbs/mmBtu) and Sheboygan Falls (0.0004 lbs/mmBtu). The 2015 rates were derived in the same manner as the 2011 and 2014 rates in Table A4.3, using: for Edgewater unit 5, annual VOC tons of 44.2 and an annual heat input of 11,984,942 mmBtu; for Sheboygan Falls, annual VOC tons of 0.1 and an annual heat input of 411,260 mmBtu.

**Table A4.5. Ozone Season Maximum Daily Heat Input and NOx Emissions for Edgewater Power Plant.**

Year	Ozone Season Average NOx Emission Rate (lbs/mmBtu) <sup>1</sup>			Ozone Season Maximum Daily Heat Input (mmBtu) <sup>2</sup>			Calculated NOx Emissions (tpsd) <sup>3</sup>		
	Unit 3	Unit 4	Unit 5	Unit 3	Unit 4	Unit 5	Unit 3	Unit 4	Unit 5
2011	0.195	0.141	0.146	14,994	68,770	93,778	1.46	4.86	6.84
2012	0.159	0.142	0.152	8,729	73,762	94,452	0.69	5.24	7.19
2013	Retired	0.136	0.044	Retired	72,811	100,543	Retired	4.94	2.24
2014	Retired	0.140	0.032	Retired	66,905	102,911	Retired	4.68	1.63
2015	Retired	0.128	0.035	Retired	68,216	93,942	Retired	4.36	1.66
2016	Retired	0.139	0.036	Retired	69,754	112,385	Retired	4.85	2.05

<sup>1</sup> Derived from ozone season heat input and NOx emissions reported to the CAMD database for each year.

<sup>2</sup> The heat input for the ozone season day with the 99<sup>th</sup> percentile highest daily heat input.

<sup>3</sup> Calculated by multiplying the ozone season average emission rate by the ozone season maximum daily heat input.



**Table A4.6. Ozone Season Maximum Daily Heat Input and NO<sub>x</sub> Emissions for Sheboygan Falls Power Plant.**

<b>Year</b>	<b>Ozone Season Average NO<sub>x</sub> Emission Rate – Units 1 &amp; 2 (lbs/mmBtu) <sup>1</sup></b>	<b>Ozone Season Maximum Daily Heat Input – Units 1 &amp; 2 <sup>2</sup></b>	<b>Calculated NO<sub>x</sub> Emissions – Units 1 &amp; 2 (tpsd) <sup>3</sup></b>
2011	0.027	34,927	0.48
2012	0.026	43,423	0.57
2013	0.029	39,541	0.57
2014	0.030	35,650	0.53
2015	0.028	38,083	0.54
2016	0.028	40,479	0.56

<sup>1</sup> Derived from ozone season heat input and NO<sub>x</sub> emissions reported to the CAMD database for each year.

<sup>2</sup> The heat input for the ozone season day with the 99<sup>th</sup> percentile highest daily heat input.

<sup>3</sup> Calculated by multiplying the ozone season average emission rate by the ozone season maximum daily heat input.

## **APPENDIX 5**

### **Point Non-EGU Emissions for 2011, 2014, 2020 and 2030**

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This appendix provides a list of Sheboygan County point source non-EGU tons per summer day (tpsd) emissions by facility identification number (FID) and facility name for 2011, 2014, 2020 and 2030. The sums of NO<sub>x</sub> and VOC emissions from these facilities were used for the non-EGU sector NO<sub>x</sub> and VOC tpsd emission estimates in sections 4.2 (Nonattainment Year and Attainment Year Inventories) and 4.3 (Maintenance Year Inventories) of the Wisconsin Department of Natural Resources (WDNR) Sheboygan County redesignation request for the 2008 ozone standard.

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**Table A5.1. 2011 and 2014 Point Non-EGU Emissions for Sheboygan County <sup>1</sup>**

FID	FACILITY NAME	COUNTY	POLLUTANT	2011 (tpsd)	2011 (tons)	2014 (tpsd)	2014 (tons)
460006360	Sheboygan Wastewater Treatment Plant <sup>2</sup>	Sheboygan	NOX	8.13E-03	2.97	6.18E-03	2.26
460008120	Pemco Inc.	Sheboygan	NOX	1.03E-03	0.38	0.00E+00	0.00
460008230	Georgia-Pacific Corrugated Llc	Sheboygan	NOX	7.81E-03	2.85	9.95E-03	3.63
460012740	Old Wisconsin Sausage Co Plant 2	Sheboygan	NOX	3.72E-03	1.36	5.47E-03	2.00
460013510	Curt G. Joa, Incorporated	Sheboygan	NOX	1.10E-03	0.40	1.74E-03	0.64
460023520	Manning Lighting, Inc.	Sheboygan	NOX	9.02E-04	0.33	9.96E-04	0.36
460023740	Lakeshore Display Co., Inc.	Sheboygan	NOX	4.29E-04	0.16	6.13E-05	0.02
460027810	Aldrich Chemical Company	Sheboygan	NOX	2.15E-05	0.01	2.73E-02	9.97
460029460	Nemschoff Chairs, Inc.	Sheboygan	NOX	2.07E-04	0.08	0.00E+00	0.00
460029570	Nemschoff Chairs Inc	Sheboygan	NOX	3.19E-03	1.16	3.37E-03	1.23
460032760	Milk Specialties Global Adell (prev Adell Corp.)	Sheboygan	NOX	3.23E-02	11.79	3.42E-02	12.49
460032870	Kohler Co-Metals Processing Complex	Sheboygan	NOX	6.34E-01	231.39	5.87E-01	214.43
460033420	Johnsonville Foods	Sheboygan	NOX	2.17E-02	7.90	2.47E-02	9.01
460034410	Bemis Mfg. Co. - Plant D	Sheboygan	NOX	3.34E-03	1.22	4.21E-03	1.54
460034630	Bemis Mfg. Co. Plant B	Sheboygan	NOX	1.04E-02	3.78	1.38E-02	5.04
460034740	Plastics Engineering Co N 15th St Plant	Sheboygan	NOX	4.24E-02	15.49	4.17E-02	15.21
460034960	Austin Gray Iron Foundry	Sheboygan	NOX	4.17E-04	0.15	6.04E-04	0.22
460035180	The Vollrath Company, Llc	Sheboygan	NOX	1.12E-02	4.10	1.35E-02	4.91
460035730	Willman Industries	Sheboygan	NOX	5.30E-03	1.94	6.27E-03	2.29
460036170	The Mayline Co.(Wood Plant)	Sheboygan	NOX	1.22E-03	0.45	0.00E+00	0.00
460036280	Aurora Sheboygan Memorial Medical Center	Sheboygan	NOX	8.28E-03	3.02	7.84E-03	2.86
460037820	Sheboygan Co Highway Commission	Sheboygan	NOX	1.77E-02	6.46	5.70E-03	2.08
460038700	Kohler Co - Town Of Mosel Plant	Sheboygan	NOX	6.52E-02	23.80	5.53E-02	20.19
460040460	Anr Pipeline Co.(Kewaskum Comp. Station)	Sheboygan	NOX	4.80E-02	17.52	1.20E-01	43.85
460041230	NEMAK USA INC - TAYLOR DRIVE (prev J. L. French Corp.)	Sheboygan	NOX	2.78E-02	10.16	3.58E-02	13.06
460041670	HEXION INC (prev Momentive Specialty Chemicals Inc)	Sheboygan	NOX	4.32E-02	15.78	4.51E-02	16.46
460061250	Richardson Yacht Interiors	Sheboygan	NOX	9.90E-04	0.36	8.71E-04	0.32
460086990	Times Printing Co Inc	Sheboygan	NOX	3.46E-03	1.26	3.62E-03	1.32
460094470	Bremer Manufacturing	Sheboygan	NOX	2.07E-03	0.75	0.00E+00	0.00
460098760	Plymouth Foam Incorporated	Sheboygan	NOX	6.60E-03	2.41	8.32E-03	3.04

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460106570	American Excelsior	Sheboygan	NOX	4.70E-04	0.17	7.07E-04	0.26
460119330	Bemis Wood Flour Mill	Sheboygan	NOX	2.40E-04	0.09	0.00E+00	0.00
460141330	J.L. French Corporation, Gateway Plant	Sheboygan	NOX	1.36E-01	49.50	1.24E-01	45.39
460141660	Lakeland College	Sheboygan	NOX	5.17E-03	1.89	5.43E-03	1.98
460145840	The Mayline Co.(Steel Plant)	Sheboygan	NOX	1.58E-03	0.58	2.37E-03	0.86
460147820	Kohler Company - Vitreous Plant	Sheboygan	NOX	1.84E-02	6.73	1.62E-02	5.90
460147930	Kohler Co-Engine Plant	Sheboygan	NOX	8.10E-03	2.96	1.04E-02	3.80
460153980	Aurora Medical System - Valley View Medical	Sheboygan	NOX	1.92E-03	0.70	0.00E+00	0.00
999872390	Sheboygan County Highway Department	Sheboygan	NOX	7.40E-03	2.70	0.00E+00	0.00
460008120	Pemco Inc.	Sheboygan	VOC	6.99E-03	2.55	0.00E+00	0.00
460006360	Sheboygan Wastewater Treatment Plant <sup>2</sup>	Sheboygan	VOC	3.18E-03	1.16	3.09E-03	1.13
460008230	Georgia-Pacific Corrugated Llc	Sheboygan	VOC	1.05E-02	3.82	1.27E-02	4.62
460012740	Old Wisconsin Sausage Co Plant 2	Sheboygan	VOC	7.32E-03	2.67	6.90E-03	2.52
460013510	Curt G. Joa, Incorporated	Sheboygan	VOC	9.15E-03	3.34	8.09E-03	2.95
460022530	Sheboygan Paperbox Co.	Sheboygan	VOC	7.59E-02	27.71	8.63E-02	31.49
460023520	Manning Lighting, Inc.	Sheboygan	VOC	1.22E-03	0.45	1.47E-04	0.05
460023740	Lakeshore Display Co., Inc.	Sheboygan	VOC	4.55E-02	16.61	2.75E-02	10.03
460027480	Kieffer & Co., Inc.	Sheboygan	VOC	5.79E-03	2.11	9.24E-03	3.37
460027810	Aldrich Chemical Company	Sheboygan	VOC	6.52E-02	23.80	1.68E-02	6.12
460029460	Nemschoff Chairs, Inc.	Sheboygan	VOC	3.22E-02	11.74	0.00E+00	0.00
460029570	Nemschoff Chairs Inc	Sheboygan	VOC	3.94E-02	14.36	5.71E-02	20.85
460032760	Milk Specialties Global Adell (prev Adell Corp.)	Sheboygan	VOC	1.98E-03	0.72	1.71E-03	0.62
460032870	Kohler Co-Metals Processing Complex	Sheboygan	VOC	1.56E-01	56.78	1.78E-01	65.03
460033420	Johnsonville Foods	Sheboygan	VOC	1.44E-02	5.24	6.55E-03	2.39
460034410	Bemis Mfg. Co. - Plant D	Sheboygan	VOC	1.54E-02	5.61	9.47E-03	3.46
460034630	Bemis Mfg. Co. Plant B	Sheboygan	VOC	4.69E-01	171.05	5.04E-01	183.89
460034740	Plastics Engineering Co N 15th St Plant	Sheboygan	VOC	2.03E-02	7.43	1.85E-02	6.74
460034960	Austin Gray Iron Foundry	Sheboygan	VOC	8.18E-03	2.98	7.14E-03	2.61
460035180	The Vollrath Company, Llc	Sheboygan	VOC	6.18E-04	0.23	7.40E-04	0.27
460035730	Willman Industries	Sheboygan	VOC	7.04E-02	25.71	5.74E-02	20.93
460036170	The Mayline Co.(Wood Plant)	Sheboygan	VOC	1.21E-03	0.44	0.00E+00	0.00
460036280	Aurora Sheboygan Memorial Medical Center	Sheboygan	VOC	4.54E-04	0.17	4.30E-04	0.16
460037820	Sheboygan Co Highway Commission	Sheboygan	VOC	1.20E-03	0.44	2.91E-04	0.11
460038700	Kohler Co - Town Of Mosel Plant	Sheboygan	VOC	2.58E-02	9.42	3.36E-02	12.27
460038810	Sheboygan Paint Co.	Sheboygan	VOC	1.58E-01	57.50	1.07E-01	39.01

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460039470	Poly Vinyl Company Inc	Sheboygan	VOC	8.89E-03	3.24	9.78E-03	3.57
460040460	Anr Pipeline Co.(Kewaskum Comp. Station)	Sheboygan	VOC	9.41E-04	0.34	3.09E-03	1.13
460041230	NEMAK USA INC - TAYLOR DRIVE (prev J. L. French Corp.)	Sheboygan	VOC	1.12E-02	4.08	1.75E-02	6.37
460041670	HEXION INC (prev Momentive Specialty Chemicals Inc)	Sheboygan	VOC	6.27E-02	22.87	4.81E-02	17.55
460061250	Richardson Yacht Interiors	Sheboygan	VOC	1.20E-02	4.39	1.56E-02	5.70
460086990	Times Printing Co Inc	Sheboygan	VOC	3.36E-02	12.26	6.76E-02	24.67
460094470	Bremer Manufacturing	Sheboygan	VOC	4.13E-05	0.02	0.00E+00	0.00
460098760	Plymouth Foam Incorporated	Sheboygan	VOC	1.48E-01	54.17	1.56E-01	56.95
460100080	Ajs & Associates, Inc	Sheboygan	VOC	6.57E-03	2.40	1.94E-02	7.09
460106570	American Excelsior	Sheboygan	VOC	2.48E-02	9.07	2.19E-02	7.98
460119330	Bemis Wood Flour Mill	Sheboygan	VOC	1.27E-05	0.00	0.00E+00	0.00
460120760	Lakeland Sports Center	Sheboygan	VOC	5.88E-03	2.15	0.00E+00	0.00
460130440	Saco Polymers Inc	Sheboygan	VOC	2.04E-02	7.45	2.28E-02	8.34
460141330	NEMAK GATEWAY PLANT (prev J.L. French Corporation)	Sheboygan	VOC	4.94E-02	18.03	6.61E-02	24.12
460141660	Lakeland College	Sheboygan	VOC	2.85E-04	0.10	2.97E-04	0.11
460145730	Westshore Industries	Sheboygan	VOC	1.76E-02	6.43	5.72E-03	2.09
460145840	The Mayline Co.(Steel Plant)	Sheboygan	VOC	4.74E-02	17.30	5.67E-02	20.70
460147820	Kohler Company - Vitreous Plant	Sheboygan	VOC	1.17E-03	0.43	9.09E-04	0.33
460147930	Kohler Co-Engine Plant	Sheboygan	VOC	6.32E-02	23.07	6.36E-02	23.21
460148150	Universal Lithographers	Sheboygan	VOC	1.09E-02	3.99	1.15E-02	4.19
460153980	Aurora Medical System - Valley View Medical	Sheboygan	VOC	1.05E-04	0.04	0.00E+00	0.00
460157500	Certain Teed	Sheboygan	VOC	9.04E-03	3.30	8.05E-03	2.94
460169600	Franzen Lithoscreen Inc.	Sheboygan	VOC	3.07E-02	11.19	2.44E-02	8.91
999872390	Sheboygan County Highway Department	Sheboygan	VOC	6.04E-04	0.22	0.00E+00	0.00
<b>TOTAL</b>		<b>SHEBOYGAN</b>	<b>NOx</b>	<b>1.19</b>	<b>435</b>	<b>1.22</b>	<b>447</b>
			<b>VOC</b>	<b>1.81</b>	<b>661</b>	<b>1.77</b>	<b>647</b>

<sup>1</sup> Tons per summer day (tpsd) emissions were calculated by dividing annual emissions by 365 days.

<sup>2</sup> Emissions for FID 460006360 (Sheboygan Wastewater Treatment Plant) are based on 2013 reported emissions, as that was the earliest year of reported emissions.

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**Table A5.2. 2020 and 2030 Point Non-EGU Emissions for Sheboygan County**

FID	FACILITY NAME	NAICS	POLLUTANT	2011 (tpsd)	2020 GF <sup>1</sup>	2030 GF <sup>1</sup>	2020 (tpsd)	2030 (tpsd)
460153980	Aurora Medical System - Valley View Medical	6221	NOX	1.92E-03	1.04	1.04	1.99E-03	1.99E-03
999872390	Sheboygan County Highway Department	21232	NOX	7.40E-03	1.30	1.46	9.60E-03	1.08E-02
460023740	Lakeshore Display Co., Inc.	32199	NOX	4.29E-04	1.34	1.45	5.77E-04	6.22E-04
460119330	Bemis Wood Flour Mill	32199	NOX	2.40E-04	1.34	1.45	3.23E-04	3.48E-04
460086990	Times Printing Co Inc	32311	NOX	3.46E-03	0.83	0.93	2.89E-03	3.22E-03
460037820	Sheboygan Co Highway Commission	32412	NOX	1.77E-02	N/A	N/A	1.77E-02	1.77E-02
460034740	Plastics Engineering Co N 15th St Plant	32521	NOX	4.24E-02	1.18	1.29	4.99E-02	5.45E-02
460041670	HEXION INC (prev Momentive Specialty Chemicals Inc)	32521	NOX	4.32E-02	1.18	1.29	5.09E-02	5.56E-02
460034410	Bemis Mfg. Co. - Plant D	32612	NOX	3.34E-03	1.06	1.15	3.54E-03	3.83E-03
460106570	American Excelsior	32615	NOX	4.70E-04	1.06	1.15	4.98E-04	5.38E-04
460034630	Bemis Mfg. Co. Plant B	32619	NOX	1.04E-02	1.06	1.15	1.10E-02	1.19E-02
460147820	Kohler Company - Vitreous Plant	32711	NOX	1.84E-02	N/A	N/A	1.84E-02	1.84E-02
460034960	Austin Gray Iron Foundry	33151	NOX	4.17E-04	0.79	0.93	3.29E-04	3.89E-04
460035730	Willman Industries	33151	NOX	5.30E-03	0.79	0.93	4.18E-03	4.94E-03
460035180	The Vollrath Company, LLC	33211	NOX	1.12E-02	1.00	0.98	1.13E-02	1.10E-02
460023520	Manning Lighting, Inc.	33232	NOX	9.02E-04	1.00	0.98	9.03E-04	8.81E-04
460032870	Kohler Co-Metals Processing Complex	33299	NOX	6.34E-01	1.00	0.98	6.35E-01	6.19E-01
460008120	Pemco Inc.	33329	NOX	1.03E-03	1.06	1.31	1.09E-03	1.35E-03
460038700	Kohler Co - Town Of Mosel Plant	33531	NOX	6.52E-02	1.56	1.84	1.02E-01	1.20E-01
460029460	Nemschoff Chairs, Inc.	33712	NOX	2.07E-04	N/A	N/A	Shut down	Shut down
460036170	The Mayline Co.(Wood Plant)	33721	NOX	1.22E-03	N/A	N/A	1.22E-03	1.22E-03
460145840	The Mayline Co.(Steel Plant)	33721	NOX	1.58E-03	N/A	N/A	1.58E-03	1.58E-03
460040460	Anr Pipeline Co.(Kewaskum Comp. Station)	48621	NOX	4.80E-02	N/A	N/A	4.80E-02	4.80E-02
460006360	SHEBOYGAN WASTEWATER TREATMENT PLANT	221320	NOX	8.13E-03	N/A	N/A	8.13E-03	8.13E-03
460032760	MILK SPECIALTIES GLOBAL ADELL (prev Adell Corp.)	311514	NOX	3.23E-02	1.14	1.26	3.70E-02	4.08E-02
460012740	Old Wisconsin Sausage Co Plant 2	311612	NOX	3.72E-03	1.14	1.26	4.25E-03	4.70E-03
460033420	Johnsonville Foods	311612	NOX	2.17E-02	1.14	1.26	2.48E-02	2.74E-02

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460008230	Georgia-Pacific Corrugated Llc	322211	NOX	7.81E-03	0.83	0.93	6.51E-03	7.26E-03
460027810	Aldrich Chemical Company	325188	NOX	2.15E-05	1.18	1.29	2.53E-05	2.76E-05
460098760	Plymouth Foam Incorporated	326140	NOX	6.60E-03	1.06	1.15	6.99E-03	7.56E-03
460141330	J.L. French Corporation, Gateway Plant	331314	NOX	1.36E-01	1.12	1.22	1.52E-01	1.65E-01
460041230	NEMAK USA INC - TAYLOR DRIVE (prev J. L. French Corp.)	331521	NOX	2.78E-02	N/A	N/A	2.78E-02	2.78E-02
460094470	Bremer Manufacturing	331524	NOX	2.07E-03	1.12	1.22	2.32E-03	2.52E-03
460013510	Curt G. Joa, Incorporated	333291	NOX	1.10E-03	1.06	1.31	1.17E-03	1.45E-03
460147930	Kohler Co-Engine Plant	333618	NOX	8.10E-03	1.06	1.31	8.59E-03	1.06E-02
460061250	Richardson Yacht Interiors	337122	NOX	9.90E-04	N/A	N/A	9.90E-04	9.90E-04
460029570	Nemschoff Chairs Inc	337127	NOX	3.19E-03	N/A	N/A	3.19E-03	3.19E-03
460141660	Lakeland College	611310	NOX	5.17E-03	1.04	1.04	5.36E-03	5.37E-03
460036280	Aurora Sheboygan Memorial Medical Center	622110	NOX	8.28E-03	1.04	1.04	8.58E-03	8.59E-03
460153980	Aurora Medical System - Valley View Medical	6221	ROG	1.05E-04	1.04	1.04	1.09E-04	1.09E-04
999872390	Sheboygan County Highway Department	21232	ROG	6.04E-04	1.30	1.46	7.84E-04	8.81E-04
460100080	Ajs & Associates, Inc	32192	ROG	6.57E-03	1.34	1.45	8.84E-03	9.53E-03
460023740	Lakeshore Display Co., Inc.	32199	ROG	4.55E-02	1.34	1.45	6.12E-02	6.60E-02
460119330	Bemis Wood Flour Mill	32199	ROG	1.27E-05	1.34	1.45	1.71E-05	1.85E-05
460022530	Sheboygan Paperbox Co.	32221	ROG	7.59E-02	0.83	0.93	6.33E-02	7.06E-02
460086990	Times Printing Co Inc	32311	ROG	3.36E-02	0.83	0.93	2.80E-02	3.12E-02
460148150	Universal Lithographers	32311	ROG	1.09E-02	0.83	0.93	9.10E-03	1.02E-02
460169600	Franzen Lithoscreen Inc.	32311	ROG	3.07E-02	0.83	0.93	2.56E-02	2.85E-02
460037820	Sheboygan Co Highway Commission	32412	ROG	1.20E-03	N/A	N/A	1.20E-03	1.20E-03
460034740	Plastics Engineering Co N 15th St Plant	32521	ROG	2.03E-02	1.18	1.29	2.39E-02	2.61E-02
460041670	HEXION INC (prev Momentive Specialty Chemicals Inc)	32521	ROG	6.27E-02	1.18	1.29	7.37E-02	8.05E-02
460038810	Sheboygan Paint Co.	32551	ROG	1.58E-01	1.18	1.29	1.85E-01	2.02E-01
460034410	Bemis Mfg. Co. - Plant D	32612	ROG	1.54E-02	1.06	1.15	1.63E-02	1.76E-02
460039470	Poly Vinyl Company Inc	32612	ROG	8.89E-03	1.06	1.15	9.41E-03	1.02E-02
460106570	American Excelsior	32615	ROG	2.48E-02	1.06	1.15	2.63E-02	2.85E-02
460034630	Bemis Mfg. Co. Plant B	32619	ROG	4.69E-01	1.06	1.15	4.96E-01	5.37E-01
460147820	Kohler Company - Vitreous Plant	32711	ROG	1.17E-03	N/A	N/A	1.17E-03	1.17E-03
460157500	Certain Teed	32799	ROG	9.04E-03	N/A	N/A	9.04E-03	9.04E-03



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460034960	Austin Gray Iron Foundry	33151	ROG	8.18E-03	0.79	0.93	6.44E-03	7.62E-03
460035730	Willman Industries	33151	ROG	7.04E-02	0.79	0.93	5.55E-02	6.56E-02
460035180	The Vollrath Company, Llc	33211	ROG	6.18E-04	1.00	0.98	6.19E-04	6.04E-04
460023520	Manning Lighting, Inc.	33232	ROG	1.22E-03	1.00	0.98	1.23E-03	1.19E-03
460032870	Kohler Co-Metals Processing Complex	33299	ROG	1.56E-01	1.00	0.98	1.56E-01	1.52E-01
460008120	Pemco Inc.	33329	ROG	6.99E-03	1.06	1.31	7.41E-03	9.19E-03
460038700	Kohler Co - Town Of Mosel Plant	33531	ROG	2.58E-02	1.56	1.84	4.03E-02	4.75E-02
460120760	Lakeland Sports Center	33639	ROG	5.88E-03	1.13	1.20	6.66E-03	7.05E-03
460029460	Nemschoff Chairs, Inc.	33712	ROG	3.22E-02	N/A	N/A	Shut down	Shut down
460145730	Westshore Industries	33712	ROG	1.76E-02	N/A	N/A	Shut down	Shut down
460036170	The Mayline Co.(Wood Plant)	33721	ROG	1.21E-03	N/A	N/A	1.21E-03	1.21E-03
460145840	The Mayline Co.(Steel Plant)	33721	ROG	4.74E-02	N/A	N/A	4.74E-02	4.74E-02
460027480	Kieffer & Co., Inc.	33995	ROG	5.79E-03	N/A	N/A	5.79E-03	5.79E-03
460040460	Anr Pipeline Co.(Kewaskum Comp. Station)	48621	ROG	9.41E-04	N/A	N/A	9.41E-04	9.41E-04
460006360	SHEBOYGAN WASTEWATER TREATMENT PLANT	221320	ROG	3.18E-03	N/A	N/A	3.18E-03	3.18E-03
460032760	MILK SPECIALTIES GLOBAL ADELL (prev Adell Corp.)	311514	ROG	1.98E-03	1.14	1.26	2.26E-03	2.50E-03
460012740	Old Wisconsin Sausage Co Plant 2	311612	ROG	7.32E-03	1.14	1.26	8.37E-03	9.25E-03
460033420	Johnsonville Foods	311612	ROG	1.44E-02	1.14	1.26	1.64E-02	1.82E-02
460008230	Georgia-Pacific Corrugated Llc	322211	ROG	1.05E-02	0.83	0.93	8.72E-03	9.73E-03
460027810	Aldrich Chemical Company	325188	ROG	6.52E-02	1.18	1.29	7.67E-02	8.38E-02
460130440	Saco Polymers Inc	325991	ROG	2.04E-02	1.18	1.29	2.40E-02	2.62E-02
460098760	Plymouth Foam Incorporated	326140	ROG	1.48E-01	1.06	1.15	1.57E-01	1.70E-01
460141330	NEMAK GATEWAY PLANT (prev J.L. French Corporation)	331314	ROG	4.94E-02	1.12	1.22	5.53E-02	6.02E-02
460041230	NEMAK USA INC - TAYLOR DRIVE (prev J. L. French Corp.)	331521	ROG	1.12E-02	N/A	N/A	1.12E-02	1.12E-02
460094470	Bremer Manufacturing	331524	ROG	4.13E-05	1.12	1.22	4.63E-05	5.04E-05
460013510	Curt G. Joa, Incorporated	333291	ROG	9.15E-03	1.06	1.31	9.71E-03	1.20E-02
460147930	Kohler Co-Engine Plant	333618	ROG	6.32E-02	1.06	1.31	6.70E-02	8.31E-02
460061250	Richardson Yacht Interiors	337122	ROG	1.20E-02	N/A	N/A	1.20E-02	1.20E-02
460029570	Nemschoff Chairs Inc	337127	ROG	3.94E-02	N/A	N/A	3.94E-02	3.94E-02
460141660	Lakeland College	611310	ROG	2.85E-04	1.04	1.04	2.95E-04	2.95E-04
460036280	Aurora Sheboygan Memorial Medical Center	622110	ROG	4.54E-04	1.04	1.04	4.70E-04	4.71E-04

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<b>Sub-total – Existing Sources</b>			<b>NO<sub>x</sub></b>	<b>1.191</b>	<b>---</b>	<b>---</b>	<b>1.270</b>	<b>1.310</b>
			<b>ROG</b>	<b>1.810</b>	<b>---</b>	<b>---</b>	<b>1.861</b>	<b>2.019</b>
<i>New &amp; Modified Sources</i> <sup>3</sup>								
N/A	N/A	N/A	NO <sub>x</sub>	N/A	N/A	N/A	<b>0.137</b>	<b>0.137</b>
N/A	N/A	N/A	VOC	N/A	N/A	N/A	<b>0.342</b>	<b>0.342</b>
<b>TOTAL (Existing + New/Modified Sources)</b>			<b>NO<sub>x</sub></b>	<b>1.19</b>	<b>---</b>	<b>---</b>	<b>1.407</b>	<b>1.447</b>
			<b>VOC</b>	<b>1.81</b>	<b>---</b>	<b>---</b>	<b>2.203</b>	<b>2.360</b>

<sup>1</sup> GF = Growth factor (see Appendix 3 for how the growth factors were derived).

<sup>2</sup> Emissions for FID 460006360 (Sheboygan Wastewater Treatment Plant) are based on 2013 reported emissions, as that was the earliest year of reported emissions.

<sup>3</sup> See Appendix 3 for how projected emissions were derived for new and modified sources.

## **APPENDIX 6**

### **Area Source Emissions for 2011, 2014, 2020 and 2030**

## Sheboygan County Redesignation Request

This appendix provides a list of Sheboygan County area source tons per summer day (tpsd) emissions by source classification code (SCC) for 2011, 2014, 2020 and 2030. The sums of NO<sub>x</sub> and VOC emissions from the different SCCs were used for the area source sector NO<sub>x</sub> and VOC tpsd emission estimates in sections 4.2 (Nonattainment Year and Attainment Year Inventories) and 4.3 (Maintenance Year Inventories) of the Wisconsin Department of Natural Resources (WDNR) Sheboygan County redesignation request for the 2008 ozone standard.

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**Table A6.1. Area Source 2011 and Projected 2017 and 2018 Emissions for Sheboygan County**

FIPS	SCC	POLLUTANT	2011 (tpsd)	2014 est (tpsd)	2017 (tpsd)	2025 (tpsd)	2020 est (tpsd)	2030 est (tpsd)
55117	2102001000	NO <sub>x</sub>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2102002000	NO <sub>x</sub>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2102004001	NO <sub>x</sub>	8.11E-01	6.80E-01	5.49E-01	5.59E-01	5.53E-01	5.65E-01
55117	2102004002	NO <sub>x</sub>	4.52E+00	4.76E+00	5.00E+00	5.09E+00	5.03E+00	5.14E+00
55117	2102005000	NO <sub>x</sub>	4.70E-01	2.89E-01	1.07E-01	1.04E-01	1.06E-01	1.03E-01
55117	2102006000	NO <sub>x</sub>	4.89E+01	5.24E+01	5.60E+01	5.74E+01	5.65E+01	5.82E+01
55117	2102007000	NO <sub>x</sub>	1.28E-01	1.37E-01	1.45E-01	1.55E-01	1.49E-01	1.61E-01
55117	2102008000	NO <sub>x</sub>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2102011000	NO <sub>x</sub>	3.88E-02	4.08E-02	4.28E-02	4.37E-02	4.31E-02	4.42E-02
55117	2103001000	NO <sub>x</sub>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2103002000	NO <sub>x</sub>	5.50E+00	3.52E+00	1.53E+00	1.53E+00	1.53E+00	1.53E+00
55117	2103004001	NO <sub>x</sub>	2.92E+00	2.32E+00	1.71E+00	1.71E+00	1.71E+00	1.71E+00
55117	2103004002	NO <sub>x</sub>	9.90E+01	9.70E+01	9.49E+01	9.46E+01	9.48E+01	9.44E+01
55117	2103005000	NO <sub>x</sub>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2103006000	NO <sub>x</sub>	6.96E+01	6.84E+01	6.73E+01	6.73E+01	6.73E+01	6.73E+01
55117	2103007000	NO <sub>x</sub>	5.69E+00	5.69E+00	5.69E+00	5.69E+00	5.69E+00	5.69E+00
55117	2103008000	NO <sub>x</sub>	4.64E-02	5.22E-02	5.80E-02	5.80E-02	5.80E-02	5.80E-02
55117	2103011000	NO <sub>x</sub>	1.11E-05	1.11E-05	1.11E-05	1.11E-05	1.11E-05	1.11E-05
55117	2104001000	NO <sub>x</sub>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2104002000	NO <sub>x</sub>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2104004000	NO <sub>x</sub>	7.30E+00	7.30E+00	7.30E+00	7.30E+00	7.30E+00	7.30E+00
55117	2104006000	NO <sub>x</sub>	1.47E+02	1.47E+02	1.47E+02	1.47E+02	1.47E+02	1.47E+02
55117	2104007000	NO <sub>x</sub>	2.95E+01	2.95E+01	2.95E+01	2.95E+01	2.95E+01	2.95E+01
55117	2104008100	NO <sub>x</sub>	4.72E+00	4.87E+00	5.01E+00	5.42E+00	5.17E+00	5.68E+00
55117	2104008210	NO <sub>x</sub>	3.16E+00	3.00E+00	2.85E+00	2.38E+00	2.67E+00	2.09E+00
55117	2104008220	NO <sub>x</sub>	1.09E+00	1.18E+00	1.27E+00	1.37E+00	1.31E+00	1.43E+00
55117	2104008230	NO <sub>x</sub>	3.07E-01	3.33E-01	3.59E-01	4.04E-01	3.76E-01	4.32E-01

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FIPS	SCC	POLLUTANT	2011 (tpsd)	2014 est (tpsd)	2017 (tpsd)	2025 (tpsd)	2020 est (tpsd)	2030 est (tpsd)
55117	2104008310	NOx	1.38E+01	1.34E+01	1.29E+01	1.10E+01	1.22E+01	9.82E+00
55117	2104008320	NOx	3.56E+00	3.86E+00	4.17E+00	4.49E+00	4.29E+00	4.68E+00
55117	2104008330	NOx	3.46E+00	3.75E+00	4.05E+00	4.55E+00	4.24E+00	4.87E+00
55117	2104008400	NOx	1.37E+00	1.75E+00	2.13E+00	2.68E+00	2.34E+00	3.03E+00
55117	2104008510	NOx	3.91E+00	3.41E+00	2.91E+00	4.69E-01	2.00E+00	1.63E-01
55117	2104008610	NOx	1.23E+00	1.27E+00	1.31E+00	1.28E+00	1.30E+00	1.26E+00
55117	2104008700	NOx	7.91E+00	8.16E+00	8.40E+00	9.09E+00	8.66E+00	9.52E+00
55117	2104009000	NOx	9.53E-02	9.82E-02	1.01E-01	1.09E-01	1.04E-01	1.15E-01
55117	2104011000	NOx	1.51E-01	1.51E-01	1.51E-01	1.51E-01	1.51E-01	1.51E-01
55117	2610000100	NOx	2.30E-01	2.30E-01	2.30E-01	2.30E-01	2.30E-01	2.30E-01
55117	2610000400	NOx	1.86E-01	1.86E-01	1.86E-01	1.86E-01	1.86E-01	1.86E-01
55117	2610000500	NOx	5.84E+00	5.84E+00	5.84E+00	5.84E+00	5.84E+00	5.84E+00
55117	2610030000	NOx	9.73E+00	9.73E+00	9.73E+00	9.73E+00	9.73E+00	9.73E+00
55117	2801500000	NOx	3.50E-04	1.75E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2810025000	NOx	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2810060100	NOx	3.75E-01	3.75E-01	3.75E-01	3.75E-01	3.75E-01	3.75E-01
55117	2102001000	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2102002000	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2102004001	VOC	8.11E-03	4.06E-03	8.97E-06	9.13E-06	9.03E-06	9.23E-06
55117	2102004002	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2102005000	VOC	2.39E-03	1.20E-03	1.27E-06	1.24E-06	1.26E-06	1.22E-06
55117	2102006000	VOC	2.69E+00	2.89E+00	3.09E+00	3.20E+00	3.13E+00	3.27E+00
55117	2102007000	VOC	4.69E-03	5.00E-03	5.30E-03	5.65E-03	5.43E-03	5.87E-03
55117	2102008000	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2102011000	VOC	3.82E-04	4.02E-04	4.21E-04	4.30E-04	4.25E-04	4.36E-04
55117	2103001000	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2103002000	VOC	2.50E-02	2.13E-02	1.77E-02	1.77E-02	1.77E-02	1.77E-02
55117	2103004001	VOC	4.97E-02	2.49E-02	4.76E-05	4.75E-05	4.75E-05	4.74E-05
55117	2103004002	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

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FIPS	SCC	POLLUTANT	2011 (tpsd)	2014 est (tpsd)	2017 (tpsd)	2025 (tpsd)	2020 est (tpsd)	2030 est (tpsd)
55117	2103005000	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2103006000	VOC	3.83E+00	3.74E+00	3.65E+00	3.72E+00	3.68E+00	3.77E+00
55117	2103007000	VOC	2.08E-01	2.08E-01	2.08E-01	2.08E-01	2.08E-01	2.08E-01
55117	2103008000	VOC	3.59E-03	4.04E-03	4.48E-03	4.48E-03	4.48E-03	4.48E-03
55117	2103011000	VOC	1.90E-07	1.90E-07	1.90E-07	1.90E-07	1.90E-07	1.90E-07
55117	2104001000	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2104002000	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2104004000	VOC	2.84E-01	2.84E-01	2.84E-01	2.84E-01	2.84E-01	2.84E-01
55117	2104006000	VOC	8.61E+00	8.61E+00	8.61E+00	8.61E+00	8.61E+00	8.61E+00
55117	2104007000	VOC	1.08E+00	1.08E+00	1.08E+00	1.08E+00	1.08E+00	1.08E+00
55117	2104008100	VOC	3.43E+01	3.54E+01	3.64E+01	3.94E+01	3.76E+01	4.13E+01
55117	2104008210	VOC	5.97E+01	5.68E+01	5.39E+01	4.50E+01	5.06E+01	3.95E+01
55117	2104008220	VOC	5.72E+00	6.21E+00	6.70E+00	7.21E+00	6.89E+00	7.53E+00
55117	2104008230	VOC	2.30E+00	2.50E+00	2.70E+00	3.03E+00	2.82E+00	3.24E+00
55117	2104008310	VOC	2.62E+02	2.54E+02	2.46E+02	2.12E+02	2.33E+02	1.90E+02
55117	2104008320	VOC	1.87E+01	2.03E+01	2.19E+01	2.36E+01	2.26E+01	2.46E+01
55117	2104008330	VOC	2.59E+01	2.81E+01	3.03E+01	3.41E+01	3.18E+01	3.65E+01
55117	2104008400	VOC	1.48E-02	1.89E-02	2.30E-02	2.89E-02	2.52E-02	3.27E-02
55117	2104008510	VOC	2.50E+01	2.18E+01	1.86E+01	2.98E+00	1.28E+01	1.02E+00
55117	2104008610	VOC	4.52E+01	4.66E+01	4.80E+01	4.69E+01	4.76E+01	4.62E+01
55117	2104008700	VOC	5.75E+01	5.93E+01	6.11E+01	6.61E+01	6.29E+01	6.92E+01
55117	2104009000	VOC	4.90E-01	5.06E-01	5.21E-01	5.64E-01	5.37E-01	5.90E-01
55117	2104011000	VOC	5.85E-03	5.85E-03	5.85E-03	5.85E-03	5.85E-03	5.85E-03
55117	2302002100	VOC	9.08E-01	9.08E-01	9.08E-01	9.08E-01	9.08E-01	9.08E-01
55117	2302002200	VOC	2.50E+00	2.50E+00	2.50E+00	2.50E+00	2.50E+00	2.50E+00
55117	2302003000	VOC	4.32E-01	4.32E-01	4.32E-01	4.32E-01	4.32E-01	4.32E-01
55117	2302003100	VOC	3.35E-01	3.35E-01	3.35E-01	3.35E-01	3.35E-01	3.35E-01
55117	2302003200	VOC	1.08E-02	1.08E-02	1.08E-02	1.08E-02	1.08E-02	1.08E-02
55117	2401001000	VOC	1.35E+02	1.35E+02	1.35E+02	1.35E+02	1.35E+02	1.35E+02

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FIPS	SCC	POLLUTANT	2011 (tpsd)	2014 est (tpsd)	2017 (tpsd)	2025 (tpsd)	2020 est (tpsd)	2030 est (tpsd)
55117	2401005000	VOC	3.57E+01	3.57E+01	3.57E+01	3.57E+01	3.57E+01	3.57E+01
55117	2401008000	VOC	2.28E-01	2.28E-01	2.28E-01	2.28E-01	2.28E-01	2.28E-01
55117	2401015000	VOC	4.06E+00	4.06E+00	4.06E+00	4.06E+00	4.06E+00	4.06E+00
55117	2401020000	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2401025000	VOC	1.74E+02	1.74E+02	1.74E+02	1.74E+02	1.74E+02	1.74E+02
55117	2401055000	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2401065000	VOC	9.84E-01	9.84E-01	9.84E-01	9.84E-01	9.84E-01	9.84E-01
55117	2401070000	VOC	6.05E+00	6.05E+00	6.05E+00	6.05E+00	6.05E+00	6.05E+00
55117	2401075000	VOC	4.90E-02	4.90E-02	4.90E-02	4.90E-02	4.90E-02	4.90E-02
55117	2401090000	VOC	2.95E+01	2.95E+01	2.95E+01	2.95E+01	2.95E+01	2.95E+01
55117	2401100000	VOC	3.48E+01	3.48E+01	3.48E+01	3.48E+01	3.48E+01	3.48E+01
55117	2401200000	VOC	3.70E+00	3.70E+00	3.70E+00	3.70E+00	3.70E+00	3.70E+00
55117	2415000000	VOC	1.57E+02	1.57E+02	1.57E+02	1.57E+02	1.57E+02	1.57E+02
55117	2420000000	VOC	1.18E-04	1.18E-04	1.18E-04	1.18E-04	1.18E-04	1.18E-04
55117	2425000000	VOC	3.83E+01	3.83E+01	3.83E+01	3.83E+01	3.83E+01	3.83E+01
55117	2460100000	VOC	1.10E+02	1.10E+02	1.10E+02	1.10E+02	1.10E+02	1.10E+02
55117	2460200000	VOC	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02
55117	2460400000	VOC	7.85E+01	7.85E+01	7.85E+01	7.85E+01	7.85E+01	7.85E+01
55117	2460500000	VOC	5.49E+01	5.49E+01	5.49E+01	5.49E+01	5.49E+01	5.49E+01
55117	2460600000	VOC	3.29E+01	3.29E+01	3.29E+01	3.29E+01	3.29E+01	3.29E+01
55117	2460800000	VOC	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02
55117	2460900000	VOC	4.04E+00	4.04E+00	4.04E+00	4.04E+00	4.04E+00	4.04E+00
55117	2461021000	VOC	4.07E+01	4.07E+01	4.07E+01	4.07E+01	4.07E+01	4.07E+01
55117	2461022000	VOC	9.84E+00	9.84E+00	9.84E+00	9.84E+00	9.84E+00	9.84E+00
55117	2461850000	VOC	8.10E+01	8.02E+01	7.95E+01	7.98E+01	7.96E+01	8.00E+01
55117	2501011011	VOC	2.39E+00	2.69E+00	2.99E+00	3.78E+00	3.29E+00	4.28E+00
55117	2501011012	VOC	3.08E+00	3.22E+00	3.35E+00	3.72E+00	3.49E+00	3.94E+00
55117	2501011013	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2501011014	VOC	4.90E-01	5.57E-01	6.24E-01	8.03E-01	6.91E-01	9.15E-01



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FIPS	SCC	POLLUTANT	2011 (tpsd)	2014 est (tpsd)	2017 (tpsd)	2025 (tpsd)	2020 est (tpsd)	2030 est (tpsd)
55117	2501011015	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2501012011	VOC	1.13E-01	1.22E-01	1.31E-01	1.54E-01	1.39E-01	1.69E-01
55117	2501012012	VOC	9.84E-02	1.03E-01	1.07E-01	1.19E-01	1.11E-01	1.26E-01
55117	2501012013	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2501012014	VOC	1.63E+00	1.71E+00	1.80E+00	2.02E+00	1.88E+00	2.17E+00
55117	2501012015	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2501050120	VOC	1.78E+02	1.78E+02	1.77E+02	1.45E+02	1.65E+02	1.25E+02
55117	2501055120	VOC	5.60E+01	5.48E+01	5.36E+01	4.40E+01	5.00E+01	3.80E+01
55117	2501060051	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2501060052	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2501060053	VOC	2.13E+01	2.09E+01	2.04E+01	1.68E+01	1.90E+01	1.45E+01
55117	2501060100	VOC	5.74E+01	5.73E+01	N/A	N/A	4.28E+01	2.45E+01
55117	2501060201	VOC	2.45E+01	2.39E+01	2.34E+01	1.92E+01	2.18E+01	1.66E+01
55117	2501080050	VOC	1.59E+01	1.59E+01	1.59E+01	1.59E+01	1.59E+01	1.59E+01
55117	2501080100	VOC	8.27E-01	8.27E-01	8.27E-01	8.27E-01	8.27E-01	8.27E-01
55117	2505030120	VOC	1.60E+00	1.57E+00	1.53E+00	1.26E+00	1.43E+00	1.08E+00
55117	2505040120	VOC	6.11E+01	6.09E+01	6.07E+01	4.98E+01	5.66E+01	4.30E+01
55117	2610000100	VOC	1.04E+00	1.04E+00	1.04E+00	1.04E+00	1.04E+00	1.04E+00
55117	2610000400	VOC	7.05E-01	7.05E-01	7.05E-01	7.05E-01	7.05E-01	7.05E-01
55117	2610000500	VOC	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01
55117	2610030000	VOC	1.39E+01	1.39E+01	1.39E+01	1.39E+01	1.39E+01	1.39E+01
55117	2630020000	VOC	2.17E+00	2.17E+00	2.17E+00	2.17E+00	2.17E+00	2.17E+00
55117	2801500000	VOC	5.72E-04	2.86E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2810025000	VOC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55117	2810060100	VOC	1.31E-03	1.31E-03	1.31E-03	1.31E-03	1.31E-03	1.31E-03
Total		NOx	1.32	1.32	1.31	1.31	1.31	1.31
		VOC	6.17	6.14	5.97	5.68	5.98	5.59

\*Values marked in red font indicate WDNR staff estimates.

## **APPENDIX 7**

### **Nonroad Emissions for 2011, 2014, 2020 and 2030**

## Sheboygan County Redesignation Request

This appendix provides detailed listings of the estimated nonroad emissions data for over 200 subcategories for Sheboygan County for 2011, 2014, 2020 and 2030. The sums of NO<sub>x</sub> and VOC emissions from the different nonroad source types were used for the nonroad sector NO<sub>x</sub> and VOC tons per summer day (tpsd) emission estimates in sections 4.2 ((Nonattainment Year and Attainment Year Inventories)) and 4.3 (Maintenance Year Inventories) of the Wisconsin Department of Natural Resources (WDNR) Sheboygan County redesignation request for the 2008 ozone standard.

These inventories are based on three primary sources of data:

MOVES: The U.S. EPA's MOVES2014a model. This model was used for most source categories. The exceptions are cited below.

USEPA: The U.S. EPA's 2011 Emissions Modeling Platform, version 6.3. This platform provides emissions for 2011, 2017 and 2023. (Interpolation or extrapolation was used to obtain the estimates for 2014, 2020 and 2030.) This data source was used for the categories: airport, aircraft and diesel locomotives.

LADCO: The Lake Michigan Air Directors Consortium. LADCO provided commercial marine vessel emissions for the year 2014. For the other three years (2011, 2020 and 2030), the 2014 emissions were proportionally adjusted based on the emissions in the U.S. EPA's 2011 Emissions Modeling Platform, version 6.3.

Sheboygan County Redesignation Request

**Table A7.1. 2011 Nonroad NO<sub>x</sub> and VOC Emissions: tons per summer day (tpsd)  
Sheboygan County**

SCC	Segment Description	SCC Description	Emissions from	Sheboygan County 2011 Emissions	
				NO <sub>x</sub>	VOC
2260001010	Recreational	2-Stroke Motorcycles: Off-Road	MOVES	0.0028	0.4234
2260001020	Recreational	2-Stroke Snowmobiles	MOVES	0.0000	0.0441
2260001030	Recreational	2-Stroke All Terrain Vehicles	MOVES	0.0040	0.4936
2260001060	Recreational	2-Stroke Specialty Vehicle Carts	MOVES	0.0011	0.0048
2260002006	Construction	2-Stroke Tampers/Rammers	MOVES	0.0001	0.0046
2260002009	Construction	2-Stroke Plate Compactors	MOVES	0.0000	0.0002
2260002021	Construction	2-Stroke Paving Equipment	MOVES	0.0000	0.0002
2260002027	Construction	2-Stroke Signal Boards	MOVES	0.0000	0.0000
2260002039	Construction	2-Stroke Concrete/Industrial Saws	MOVES	0.0003	0.0115
2260002054	Construction	2-Stroke Crushing/Proc. Equipment	MOVES	0.0000	0.0000
2260003030	Industrial	2-Stroke Sweepers/Scrubbers	MOVES	0.0000	0.0002
2260003040	Industrial	2-Stroke Other General Industrial Equipment	MOVES	0.0000	0.0000
2260004015	Lawn/Garden	2-Stroke Rotary Tillers < 6 HP (Residential)	MOVES	0.0001	0.0017
2260004016	Lawn/Garden	2-Stroke Rotary Tillers < 6 HP (Commercial)	MOVES	0.0001	0.0026
2260004020	Lawn/Garden	2-Stroke Chain Saws < 6 HP (Residential)	MOVES	0.0004	0.0134
2260004021	Lawn/Garden	2-Stroke Chain Saws < 6 HP (Commercial)	MOVES	0.0006	0.0292
2260004025	Lawn/Garden	2-Stroke Trimmers/Edgers/Brush Cutters (Res.)	MOVES	0.0010	0.0330
2260004026	Lawn/Garden	2-Stroke Trimmers/Edgers/Brush Cutters (Com.)	MOVES	0.0011	0.0296
2260004030	Lawn/Garden	2-Stroke Leafblowers/Vacuums (Residential)	MOVES	0.0007	0.0235
2260004031	Lawn/Garden	2-Stroke Leafblowers/Vacuums (Commercial)	MOVES	0.0010	0.0295
2260004035	Lawn/Garden	2-Stroke Snowblowers (Residential)	MOVES	0.0000	0.0046
2260004036	Lawn/Garden	2-Stroke Snowblowers (Commercial)	MOVES	0.0000	0.0003
2260004071	Lawn/Garden	2-Stroke Commercial Turf Equipment	MOVES	0.0000	0.0000
2260005035	Agriculture	2-Stroke Sprayers	MOVES	0.0000	0.0007
2260006005	Commercial	2-Stroke Light Commercial Generator Set	MOVES	0.0000	0.0011
2260006010	Commercial	2-Stroke Light Commercial Pumps	MOVES	0.0003	0.0076
2260006015	Commercial	2-Stroke Light Commercial Air Compressors	MOVES	0.0000	0.0000
2260006035	Commercial	2-Stroke Hydro Power Units	MOVES	0.0000	0.0000
2260007005	Logging	2-Stroke Logging Equipment Chain Saws > 6 HP	MOVES	0.0000	0.0009
2265001010	Recreational	4-Stroke Motorcycles: Off-Road	MOVES	0.0021	0.0189
2265001030	Recreational	4-Stroke All Terrain Vehicles	MOVES	0.0185	0.2153
2265001050	Recreational	4-Stroke Golf Carts	MOVES	0.0103	0.0323
2265001060	Recreational	4-Stroke Specialty Vehicle Carts	MOVES	0.0010	0.0045
2265002003	Construction	4-Stroke Asphalt Pavers	MOVES	0.0002	0.0003
2265002006	Construction	4-Stroke Tampers/Rammers	MOVES	0.0000	0.0000
2265002009	Construction	4-Stroke Plate Compactors	MOVES	0.0002	0.0012
2265002015	Construction	4-Stroke Rollers	MOVES	0.0002	0.0005
2265002021	Construction	4-Stroke Paving Equipment	MOVES	0.0005	0.0021
2265002024	Construction	4-Stroke Surfacing Equipment	MOVES	0.0002	0.0007
2265002027	Construction	4-Stroke Signal Boards	MOVES	0.0000	0.0000
2265002030	Construction	4-Stroke Trenchers	MOVES	0.0005	0.0013
2265002033	Construction	4-Stroke Bore/Drill Rigs	MOVES	0.0002	0.0009
2265002039	Construction	4-Stroke Concrete/Industrial Saws	MOVES	0.0007	0.0019
2265002042	Construction	4-Stroke Cement & Mortar Mixers	MOVES	0.0005	0.0030
2265002045	Construction	4-Stroke Cranes	MOVES	0.0001	0.0001
2265002054	Construction	4-Stroke Crushing/Proc. Equipment	MOVES	0.0001	0.0002
2265002057	Construction	4-Stroke Rough Terrain Forklifts	MOVES	0.0001	0.0001
2265002060	Construction	4-Stroke Rubber Tire Loaders	MOVES	0.0002	0.0001
2265002066	Construction	4-Stroke Tractors/Loaders/Backhoes	MOVES	0.0003	0.0007
2265002072	Construction	4-Stroke Skid Steer Loaders	MOVES	0.0004	0.0005
2265002078	Construction	4-Stroke Dumpers/Tenders	MOVES	0.0001	0.0004
2265002081	Construction	4-Stroke Other Construction Equipment	MOVES	0.0001	0.0001
2265003010	Industrial	4-Stroke Aerial Lifts	MOVES	0.0039	0.0042

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SCC	Segment Description	SCC Description	Emissions from	Sheboygan County 2011 Emissions	
				NO <sub>x</sub>	VOC
2265003020	Industrial	4-Stroke Forklifts	MOVES	0.0085	0.0053
2265003030	Industrial	4-Stroke Sweepers/Scrubbers	MOVES	0.0012	0.0019
2265003040	Industrial	4-Stroke Other General Industrial Equipment	MOVES	0.0019	0.0084
2265003050	Industrial	4-Stroke Other Material Handling Equipment	MOVES	0.0002	0.0003
2265003060	Industrial	4-Stroke Industrial AC/Refrigeration	MOVES	0.0000	0.0000
2265003070	Industrial	4-Stroke Terminal Tractors	MOVES	0.0003	0.0002
2265004010	Lawn/Garden	4-Stroke Lawn mowers (Residential)	MOVES	0.0125	0.1515
2265004011	Lawn/Garden	4-Stroke Lawn mowers (Commercial)	MOVES	0.0039	0.0297
2265004015	Lawn/Garden	4-Stroke Rotary Tillers < 6 HP (Residential)	MOVES	0.0010	0.0126
2265004016	Lawn/Garden	4-Stroke Rotary Tillers < 6 HP (Commercial)	MOVES	0.0021	0.0176
2265004025	Lawn/Garden	4-Stroke Trimmers/Edgers/Brush Cutters (Res.)	MOVES	0.0001	0.0008
2265004026	Lawn/Garden	4-Stroke Trimmers/Edgers/Brush Cutters (Com.)	MOVES	0.0001	0.0006
2265004030	Lawn/Garden	4-Stroke Leafblowers/Vacuums (Residential)	MOVES	0.0001	0.0015
2265004031	Lawn/Garden	4-Stroke Leafblowers/Vacuums (Commercial)	MOVES	0.0051	0.0131
2265004035	Lawn/Garden	4-Stroke Snowblowers (Residential)	MOVES	0.0000	0.0093
2265004036	Lawn/Garden	4-Stroke Snowblowers (Commercial)	MOVES	0.0000	0.0006
2265004040	Lawn/Garden	4-Stroke Rear Engine Riding Mowers (Res.)	MOVES	0.0027	0.0173
2265004041	Lawn/Garden	4-Stroke Rear Engine Riding Mowers (Comm.)	MOVES	0.0005	0.0013
2265004046	Lawn/Garden	4-Stroke Front Mowers (Commercial)	MOVES	0.0006	0.0022
2265004051	Lawn/Garden	4-Stroke Shredders < 6 HP (Commercial)	MOVES	0.0003	0.0022
2265004055	Lawn/Garden	4-Stroke Lawn & Garden Tractors (Residential)	MOVES	0.0361	0.1692
2265004056	Lawn/Garden	4-Stroke Lawn & Garden Tractors (Commercial)	MOVES	0.0065	0.0168
2265004066	Lawn/Garden	4-Stroke Chippers/Stump Grinders (Comm.)	MOVES	0.0012	0.0020
2265004071	Lawn/Garden	4-Stroke Commercial Turf Equipment (Comm.)	MOVES	0.0197	0.0588
2265004075	Lawn/Garden	4-Stroke Other Lawn & Garden Equip. (Res.)	MOVES	0.0013	0.0100
2265004076	Lawn/Garden	4-Stroke Other Lawn & Garden Equip. (Com.)	MOVES	0.0007	0.0054
2265005010	Agriculture	4-Stroke 2-Wheel Tractors	MOVES	0.0001	0.0003
2265005015	Agriculture	4-Stroke Agricultural Tractors	MOVES	0.0006	0.0005
2265005020	Agriculture	4-Stroke Combines	MOVES	0.0000	0.0000
2265005025	Agriculture	4-Stroke Balers	MOVES	0.0010	0.0013
2265005030	Agriculture	4-Stroke Agricultural Mowers	MOVES	0.0001	0.0003
2265005035	Agriculture	4-Stroke Sprayers	MOVES	0.0017	0.0048
2265005040	Agriculture	4-Stroke Tillers > 5 HP	MOVES	0.0022	0.0106
2265005045	Agriculture	4-Stroke Swathers	MOVES	0.0015	0.0016
2265005055	Agriculture	4-Stroke Other Agricultural Equipment	MOVES	0.0018	0.0019
2265005060	Agriculture	4-Stroke Irrigation Sets	MOVES	0.0008	0.0007
2265006005	Commercial	4-Stroke Light Commercial Generator Set	MOVES	0.0114	0.0622
2265006010	Commercial	4-Stroke Light Commercial Pumps	MOVES	0.0030	0.0132
2265006015	Commercial	4-Stroke Light Commercial Air Compressors	MOVES	0.0017	0.0051
2265006025	Commercial	4-Stroke Light Commercial Welders	MOVES	0.0033	0.0086
2265006030	Commercial	4-Stroke Light Commercial Pressure Wash	MOVES	0.0047	0.0257
2265006035	Commercial	4-Stroke Hydro Power Units	MOVES	0.0002	0.0008
2265007010	Logging	4-Stroke Logging Equipment Shredders > 6 HP	MOVES	0.0001	0.0003
2265007015	Logging	4-Stroke Logging Equipment Skidders	MOVES	0.0000	0.0000
2265008005	Airport	4-Stroke Airport Support Equipment	USEPA	0.0000	0.0000
2265010010	Oil Field	4-Stroke Other Oil Field Equipment	MOVES	0.0000	0.0000
2267001060	Recreational	LPG Specialty Vehicle Carts	MOVES	0.0003	0.0001
2267002003	Construction	LPG Asphalt Pavers	MOVES	0.0001	0.0000
2267002015	Construction	LPG Rollers	MOVES	0.0001	0.0000
2267002021	Construction	LPG Paving Equipment	MOVES	0.0000	0.0000
2267002024	Construction	LPG Surfacing Equipment	MOVES	0.0000	0.0000
2267002030	Construction	LPG Trenchers	MOVES	0.0002	0.0000
2267002033	Construction	LPG Bore/Drill Rigs	MOVES	0.0001	0.0000
2267002039	Construction	LPG Concrete/Industrial Saws	MOVES	0.0001	0.0000
2267002045	Construction	LPG Cranes	MOVES	0.0001	0.0000
2267002054	Construction	LPG Crushing/Proc. Equipment	MOVES	0.0000	0.0000
2267002057	Construction	LPG Rough Terrain Forklifts	MOVES	0.0002	0.0000

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SCC	Segment Description	SCC Description	Emissions from	Sheboygan County 2011 Emissions	
				NOx	VOC
2267002060	Construction	LPG Rubber Tire Loaders	MOVES	0.0002	0.0001
2267002066	Construction	LPG Tractors/Loaders/Backhoes	MOVES	0.0000	0.0000
2267002072	Construction	LPG Skid Steer Loaders	MOVES	0.0004	0.0001
2267002081	Construction	LPG Other Construction Equipment	MOVES	0.0002	0.0000
2267003010	Industrial	LPG Aerial Lifts	MOVES	0.0084	0.0018
2267003020	Industrial	LPG Forklifts	MOVES	0.4146	0.0909
2267003030	Industrial	LPG Sweepers/Scrubbers	MOVES	0.0020	0.0004
2267003040	Industrial	LPG Other General Industrial Equipment	MOVES	0.0008	0.0002
2267003050	Industrial	LPG Other Material Handling Equipment	MOVES	0.0004	0.0001
2267003070	Industrial	LPG Terminal Tractors	MOVES	0.0007	0.0001
2267004066	Lawn/Garden	LPG Chippers/Stump Grinders (Commercial)	MOVES	0.0007	0.0001
2267005055	Agriculture	LPG Other Agricultural Equipment	MOVES	0.0000	0.0000
2267005060	Agriculture	LPG Irrigation Sets	MOVES	0.0000	0.0000
2267006005	Commercial	LPG Light Commercial Generator Sets	MOVES	0.0054	0.0009
2267006010	Commercial	LPG Light Commercial Pumps	MOVES	0.0010	0.0002
2267006015	Commercial	LPG Light Commercial Air Compressors	MOVES	0.0009	0.0002
2267006025	Commercial	LPG Light Commercial Welders	MOVES	0.0012	0.0003
2267006030	Commercial	LPG Light Commercial Pressure Washers	MOVES	0.0000	0.0000
2267006035	Commercial	LPG Hydro Power Units	MOVES	0.0000	0.0000
2267008005	Airport	LPG Airport Support Equipment	USEPA	0.0000	0.0000
2268002081	Construction	CNG Other Construction Equipment	MOVES	0.0000	0.0000
2268003020	Industrial	CNG Forklifts	MOVES	0.0296	0.0232
2268003030	Industrial	CNG Sweepers/Scrubbers	MOVES	0.0000	0.0000
2268003040	Industrial	CNG Other General Industrial Equipment	MOVES	0.0000	0.0000
2268003060	Industrial	CNG AC/Refrigeration	MOVES	0.0000	0.0000
2268003070	Industrial	CNG Terminal Tractors	MOVES	0.0001	0.0000
2268005055	Agriculture	CNG Other Agricultural Equipment	MOVES	0.0000	0.0000
2268005060	Agriculture	CNG Irrigation Sets	MOVES	0.0001	0.0001
2268006005	Commercial	CNG Light Commercial Generator Sets	MOVES	0.0017	0.0010
2268006010	Commercial	CNG Light Commercial Pumps	MOVES	0.0001	0.0000
2268006015	Commercial	CNG Light Commercial Air Compressors	MOVES	0.0001	0.0000
2268006020	Commercial	CNG Light Commercial Gas Compressors	MOVES	0.0006	0.0003
2268008005	Airport	CNG Airport Support Equipment	USEPA	0.0000	0.0000
2268010010	Oil Field	CNG Other Oil Field Equipment	MOVES	0.0000	0.0000
2270001060	Recreational	Diesel Specialty Vehicle Carts	MOVES	0.0033	0.0009
2270002003	Construction	Diesel Pavers	MOVES	0.0091	0.0008
2270002006	Construction	Diesel Tampers/Rammers (unused)	MOVES	0.0000	0.0000
2270002009	Construction	Diesel Plate Compactors	MOVES	0.0003	0.0001
2270002015	Construction	Diesel Rollers	MOVES	0.0241	0.0021
2270002018	Construction	Diesel Scrapers	MOVES	0.0253	0.0016
2270002021	Construction	Diesel Paving Equipment	MOVES	0.0015	0.0001
2270002024	Construction	Diesel Surfacing Equipment	MOVES	0.0011	0.0001
2270002027	Construction	Diesel Signal Boards	MOVES	0.0032	0.0004
2270002030	Construction	Diesel Trenchers	MOVES	0.0125	0.0012
2270002033	Construction	Diesel Bore/Drill Rigs	MOVES	0.0146	0.0012
2270002036	Construction	Diesel Excavators	MOVES	0.0837	0.0067
2270002039	Construction	Diesel Concrete/Industrial Saws	MOVES	0.0009	0.0001
2270002042	Construction	Diesel Cement & Mortar Mixers	MOVES	0.0006	0.0001
2270002045	Construction	Diesel Cranes	MOVES	0.0241	0.0017
2270002048	Construction	Diesel Graders	MOVES	0.0208	0.0017
2270002051	Construction	Diesel Off-highway Trucks	MOVES	0.0826	0.0052
2270002054	Construction	Diesel Crushing/Proc. Equipment	MOVES	0.0045	0.0003
2270002057	Construction	Diesel Rough Terrain Forklifts	MOVES	0.0328	0.0031
2270002060	Construction	Diesel Rubber Tire Loaders	MOVES	0.1133	0.0083
2270002066	Construction	Diesel Tractors/Loaders/Backhoes	MOVES	0.0805	0.0167
2270002069	Construction	Diesel Crawler Tractors	MOVES	0.0950	0.0069
2270002072	Construction	Diesel Skid Steer Loaders	MOVES	0.0557	0.0147

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SCC	Segment Description	SCC Description	Emissions from	Sheboygan County 2011 Emissions	
				NO <sub>x</sub>	VOC
2270002075	Construction	Diesel Off-Highway Tractors	MOVES	0.0125	0.0008
2270002078	Construction	Diesel Dumpers/Tenders	MOVES	0.0002	0.0001
2270002081	Construction	Diesel Other Construction Equipment	MOVES	0.0122	0.0009
2270003010	Industrial	Diesel Aerial Lifts	MOVES	0.0119	0.0032
2270003020	Industrial	Diesel Forklifts	MOVES	0.1020	0.0083
2270003030	Industrial	Diesel Sweepers/Scrubbers	MOVES	0.0538	0.0045
2270003040	Industrial	Diesel Other General Industrial Equipment	MOVES	0.0619	0.0051
2270003050	Industrial	Diesel Other Material Handling Equipment	MOVES	0.0032	0.0006
2270003060	Industrial	Diesel AC/Refrigeration	MOVES	0.0474	0.0041
2270003070	Industrial	Diesel Terminal Tractors	MOVES	0.0628	0.0054
2270004031	Lawn/Garden	Diesel Leafblowers/Vacuums (Commercial)	MOVES	0.0000	0.0000
2270004036	Lawn/Garden	Diesel Snowblowers (Commercial)	MOVES	0.0000	0.0000
2270004046	Lawn/Garden	Diesel Front Mowers (Commercial)	MOVES	0.0112	0.0014
2270004056	Lawn/Garden	Diesel Lawn & Garden Tractors (Commercial)	MOVES	0.0022	0.0003
2270004066	Lawn/Garden	Diesel Chippers/Stump Grinders (Commercial)	MOVES	0.0167	0.0016
2270004071	Lawn/Garden	Diesel Commercial Turf Equipment (Comm.)	MOVES	0.0016	0.0001
2270004076	Lawn/Garden	Diesel Other Lawn & Garden Equipment (Comm)	MOVES	0.0000	0.0000
2270005010	Agriculture	Diesel 2-Wheel Tractors	MOVES	0.0000	0.0000
2270005015	Agriculture	Diesel Agricultural Tractors	MOVES	1.0035	0.0950
2270005020	Agriculture	Diesel Combines	MOVES	0.1056	0.0093
2270005025	Agriculture	Diesel Balers	MOVES	0.0005	0.0001
2270005030	Agriculture	Diesel Agricultural Mowers	MOVES	0.0001	0.0000
2270005035	Agriculture	Diesel Sprayers	MOVES	0.0083	0.0011
2270005040	Agriculture	Diesel Tillers > 6 HP	MOVES	0.0000	0.0000
2270005045	Agriculture	Diesel Swathers	MOVES	0.0078	0.0009
2270005055	Agriculture	Diesel Other Agricultural Equipment	MOVES	0.0213	0.0022
2270005060	Agriculture	Diesel Irrigation Sets	MOVES	0.0134	0.0013
2270006005	Commercial	Diesel Light Commercial Generator Sets	MOVES	0.0267	0.0032
2270006010	Commercial	Diesel Light Commercial Pumps	MOVES	0.0063	0.0007
2270006015	Commercial	Diesel Light Commercial Air Compressors	MOVES	0.0145	0.0013
2270006025	Commercial	Diesel Light Commercial Welders	MOVES	0.0080	0.0023
2270006030	Commercial	Diesel Light Commercial Pressure Washer	MOVES	0.0009	0.0001
2270006035	Commercial	Diesel Hydro Power Units	MOVES	0.0006	0.0001
2270007015	Logging	Diesel Logging Equip Fell/Bunch/Skidlers	MOVES	0.0017	0.0001
2270008005	Airport	Diesel Airport Support Equipment	USEPA	0.0000	0.0000
2270010010	Oil Field	Diesel Other Oil Field Equipment	MOVES	0.0000	0.0000
2275001000	Aircraft	Military Aircraft	USEPA	0.0001	0.0005
2275020000	Aircraft	Commercial Aviation	USEPA	0.0000	0.0000
2275050000	Aircraft	General Aviation	USEPA	0.0055	0.0121
2275060000	Aircraft	Air Taxi	USEPA	0.0022	0.0029
2275070000	Aircraft	Aircraft Auxiliary Power Units	USEPA	0.0000	0.0000
2280000000	Comm. Mar.	All Commercial Marine Vessels	LADCO	0.4943	0.0070
2282005010	Pleasure Craft	2-Stroke Outboards	MOVES	0.0378	0.4761
2282005015	Pleasure Craft	2-Stroke Personal Watercraft	MOVES	0.0152	0.1206
2282010005	Pleasure Craft	4-Stroke Inboards	MOVES	0.1708	0.1842
2282020005	Pleasure Craft	Diesel Inboards	MOVES	0.1718	0.0079
2282020010	Pleasure Craft	Diesel Outboards	MOVES	0.0001	0.0000
2285002006	Railroad	Diesel Locomotives	USEPA	0.0894	0.0039
2285002015	Railroad	Diesel Railway Maintenance	MOVES	0.0005	0.0001
2285004015	Railroad	4-Stroke Gasoline Railway Maintenance	MOVES	0.0000	0.0000
2285006015	Railroad	LPG Railway Maintenance	MOVES	0.0000	0.0000
<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>ALL (Total)</b>		<b>3.9612</b>	<b>3.2893</b>

Sheboygan County Redesignation Request

**Table A7.2. 2014 Nonroad NO<sub>x</sub> and VOC Emissions: tons per summer day (tpsd)  
Sheboygan County**

SCC	Segment Description	SCC Description	Emissions from	Sheboygan County 2014 Emissions	
				NO <sub>x</sub>	VOC
2260001010	Recreational	2-Stroke Motorcycles: Off-Road	MOVES	0.0034	0.3954
2260001020	Recreational	2-Stroke Snowmobiles	MOVES	0.0000	0.0421
2260001030	Recreational	2-Stroke All Terrain Vehicles	MOVES	0.0049	0.4034
2260001060	Recreational	2-Stroke Specialty Vehicle Carts	MOVES	0.0008	0.0039
2260002006	Construction	2-Stroke Tampers/Rammers	MOVES	0.0001	0.0046
2260002009	Construction	2-Stroke Plate Compactors	MOVES	0.0000	0.0002
2260002021	Construction	2-Stroke Paving Equipment	MOVES	0.0000	0.0002
2260002027	Construction	2-Stroke Signal Boards	MOVES	0.0000	0.0000
2260002039	Construction	2-Stroke Concrete/Industrial Saws	MOVES	0.0003	0.0116
2260002054	Construction	2-Stroke Crushing/Proc. Equipment	MOVES	0.0000	0.0000
2260003030	Industrial	2-Stroke Sweepers/Scrubbers	MOVES	0.0000	0.0001
2260003040	Industrial	2-Stroke Other General Industrial Equipment	MOVES	0.0000	0.0000
2260004015	Lawn/Garden	2-Stroke Rotary Tillers < 6 HP (Residential)	MOVES	0.0001	0.0015
2260004016	Lawn/Garden	2-Stroke Rotary Tillers < 6 HP (Commercial)	MOVES	0.0001	0.0026
2260004020	Lawn/Garden	2-Stroke Chain Saws < 6 HP (Residential)	MOVES	0.0004	0.0139
2260004021	Lawn/Garden	2-Stroke Chain Saws < 6 HP (Commercial)	MOVES	0.0007	0.0308
2260004025	Lawn/Garden	2-Stroke Trimmers/Edgers/Brush Cutters (Res.)	MOVES	0.0011	0.0308
2260004026	Lawn/Garden	2-Stroke Trimmers/Edgers/Brush Cutters (Com.)	MOVES	0.0012	0.0309
2260004030	Lawn/Garden	2-Stroke Leafblowers/Vacuums (Residential)	MOVES	0.0007	0.0212
2260004031	Lawn/Garden	2-Stroke Leafblowers/Vacuums (Commercial)	MOVES	0.0011	0.0310
2260004035	Lawn/Garden	2-Stroke Snowblowers (Residential)	MOVES	0.0000	0.0028
2260004036	Lawn/Garden	2-Stroke Snowblowers (Commercial)	MOVES	0.0000	0.0002
2260004071	Lawn/Garden	2-Stroke Commercial Turf Equipment	MOVES	0.0000	0.0000
2260005035	Agriculture	2-Stroke Sprayers	MOVES	0.0000	0.0007
2260006005	Commercial	2-Stroke Light Commercial Generator Set	MOVES	0.0000	0.0012
2260006010	Commercial	2-Stroke Light Commercial Pumps	MOVES	0.0003	0.0080
2260006015	Commercial	2-Stroke Light Commercial Air Compressors	MOVES	0.0000	0.0000
2260006035	Commercial	2-Stroke Hydro Power Units	MOVES	0.0000	0.0000
2260007005	Logging	2-Stroke Logging Equipment Chain Saws > 6 HP	MOVES	0.0000	0.0010
2265001010	Recreational	4-Stroke Motorcycles: Off-Road	MOVES	0.0022	0.0186
2265001030	Recreational	4-Stroke All Terrain Vehicles	MOVES	0.0186	0.2170
2265001050	Recreational	4-Stroke Golf Carts	MOVES	0.0087	0.0281
2265001060	Recreational	4-Stroke Specialty Vehicle Carts	MOVES	0.0010	0.0039
2265002003	Construction	4-Stroke Asphalt Pavers	MOVES	0.0001	0.0002
2265002006	Construction	4-Stroke Tampers/Rammers	MOVES	0.0000	0.0000
2265002009	Construction	4-Stroke Plate Compactors	MOVES	0.0002	0.0007
2265002015	Construction	4-Stroke Rollers	MOVES	0.0001	0.0004
2265002021	Construction	4-Stroke Paving Equipment	MOVES	0.0003	0.0014
2265002024	Construction	4-Stroke Surfacing Equipment	MOVES	0.0001	0.0004
2265002027	Construction	4-Stroke Signal Boards	MOVES	0.0000	0.0000
2265002030	Construction	4-Stroke Trenchers	MOVES	0.0003	0.0008
2265002033	Construction	4-Stroke Bore/Drill Rigs	MOVES	0.0002	0.0005
2265002039	Construction	4-Stroke Concrete/Industrial Saws	MOVES	0.0005	0.0016
2265002042	Construction	4-Stroke Cement & Mortar Mixers	MOVES	0.0004	0.0023
2265002045	Construction	4-Stroke Cranes	MOVES	0.0001	0.0001
2265002054	Construction	4-Stroke Crushing/Proc. Equipment	MOVES	0.0000	0.0001
2265002057	Construction	4-Stroke Rough Terrain Forklifts	MOVES	0.0001	0.0001
2265002060	Construction	4-Stroke Rubber Tire Loaders	MOVES	0.0001	0.0001
2265002066	Construction	4-Stroke Tractors/Loaders/Backhoes	MOVES	0.0002	0.0005
2265002072	Construction	4-Stroke Skid Steer Loaders	MOVES	0.0003	0.0004
2265002078	Construction	4-Stroke Dumpers/Tenders	MOVES	0.0001	0.0004
2265002081	Construction	4-Stroke Other Construction Equipment	MOVES	0.0001	0.0001
2265003010	Industrial	4-Stroke Aerial Lifts	MOVES	0.0026	0.0027



# Sheboygan County Redesignation Request

SCC	Segment Description	SCC Description	Emissions from	Sheboygan County 2014 Emissions	
				NOx	VOC
2265003020	Industrial	4-Stroke Forklifts	MOVES	0.0035	0.0021
2265003030	Industrial	4-Stroke Sweepers/Scrubbers	MOVES	0.0005	0.0009
2265003040	Industrial	4-Stroke Other General Industrial Equipment	MOVES	0.0009	0.0031
2265003050	Industrial	4-Stroke Other Material Handling Equipment	MOVES	0.0002	0.0002
2265003060	Industrial	4-Stroke Industrial AC/Refrigeration	MOVES	0.0000	0.0000
2265003070	Industrial	4-Stroke Terminal Tractors	MOVES	0.0001	0.0001
2265004010	Lawn/Garden	4-Stroke Lawn mowers (Residential)	MOVES	0.0098	0.1070
2265004011	Lawn/Garden	4-Stroke Lawn mowers (Commercial)	MOVES	0.0027	0.0175
2265004015	Lawn/Garden	4-Stroke Rotary Tillers < 6 HP (Residential)	MOVES	0.0008	0.0089
2265004016	Lawn/Garden	4-Stroke Rotary Tillers < 6 HP (Commercial)	MOVES	0.0016	0.0128
2265004025	Lawn/Garden	4-Stroke Trimmers/Edgers/Brush Cutters (Res.)	MOVES	0.0001	0.0006
2265004026	Lawn/Garden	4-Stroke Trimmers/Edgers/Brush Cutters (Com.)	MOVES	0.0001	0.0005
2265004030	Lawn/Garden	4-Stroke Leafblowers/Vacuums (Residential)	MOVES	0.0001	0.0010
2265004031	Lawn/Garden	4-Stroke Leafblowers/Vacuums (Commercial)	MOVES	0.0033	0.0110
2265004035	Lawn/Garden	4-Stroke Snowblowers (Residential)	MOVES	0.0000	0.0061
2265004036	Lawn/Garden	4-Stroke Snowblowers (Commercial)	MOVES	0.0000	0.0004
2265004040	Lawn/Garden	4-Stroke Rear Engine Riding Mowers (Res.)	MOVES	0.0021	0.0141
2265004041	Lawn/Garden	4-Stroke Rear Engine Riding Mowers (Comm.)	MOVES	0.0003	0.0011
2265004046	Lawn/Garden	4-Stroke Front Mowers (Commercial)	MOVES	0.0005	0.0019
2265004051	Lawn/Garden	4-Stroke Shredders < 6 HP (Commercial)	MOVES	0.0002	0.0016
2265004055	Lawn/Garden	4-Stroke Lawn & Garden Tractors (Residential)	MOVES	0.0284	0.1379
2265004056	Lawn/Garden	4-Stroke Lawn & Garden Tractors (Commercial)	MOVES	0.0044	0.0140
2265004066	Lawn/Garden	4-Stroke Chippers/Stump Grinders (Comm.)	MOVES	0.0008	0.0016
2265004071	Lawn/Garden	4-Stroke Commercial Turf Equipment (Comm.)	MOVES	0.0135	0.0423
2265004075	Lawn/Garden	4-Stroke Other Lawn & Garden Equip. (Res.)	MOVES	0.0011	0.0078
2265004076	Lawn/Garden	4-Stroke Other Lawn & Garden Equip. (Com.)	MOVES	0.0006	0.0042
2265005010	Agriculture	4-Stroke 2-Wheel Tractors	MOVES	0.0001	0.0002
2265005015	Agriculture	4-Stroke Agricultural Tractors	MOVES	0.0004	0.0003
2265005020	Agriculture	4-Stroke Combines	MOVES	0.0000	0.0000
2265005025	Agriculture	4-Stroke Balers	MOVES	0.0009	0.0011
2265005030	Agriculture	4-Stroke Agricultural Mowers	MOVES	0.0001	0.0002
2265005035	Agriculture	4-Stroke Sprayers	MOVES	0.0014	0.0037
2265005040	Agriculture	4-Stroke Tillers > 5 HP	MOVES	0.0022	0.0098
2265005045	Agriculture	4-Stroke Swathers	MOVES	0.0014	0.0015
2265005055	Agriculture	4-Stroke Other Agricultural Equipment	MOVES	0.0016	0.0017
2265005060	Agriculture	4-Stroke Irrigation Sets	MOVES	0.0005	0.0003
2265006005	Commercial	4-Stroke Light Commercial Generator Set	MOVES	0.0092	0.0501
2265006010	Commercial	4-Stroke Light Commercial Pumps	MOVES	0.0021	0.0079
2265006015	Commercial	4-Stroke Light Commercial Air Compressors	MOVES	0.0011	0.0031
2265006025	Commercial	4-Stroke Light Commercial Welders	MOVES	0.0022	0.0068
2265006030	Commercial	4-Stroke Light Commercial Pressure Wash	MOVES	0.0034	0.0172
2265006035	Commercial	4-Stroke Hydro Power Units	MOVES	0.0001	0.0005
2265007010	Logging	4-Stroke Logging Equipment Shredders > 6 HP	MOVES	0.0001	0.0003
2265007015	Logging	4-Stroke Logging Equipment Skidders	MOVES	0.0000	0.0000
2265008005	Airport	4-Stroke Airport Support Equipment	USEPA	0.0000	0.0000
2265010010	Oil Field	4-Stroke Other Oil Field Equipment	MOVES	0.0000	0.0000
2267001060	Recreational	LPG Specialty Vehicle Carts	MOVES	0.0002	0.0000
2267002003	Construction	LPG Asphalt Pavers	MOVES	0.0000	0.0000
2267002015	Construction	LPG Rollers	MOVES	0.0000	0.0000
2267002021	Construction	LPG Paving Equipment	MOVES	0.0000	0.0000
2267002024	Construction	LPG Surfacing Equipment	MOVES	0.0000	0.0000
2267002030	Construction	LPG Trenchers	MOVES	0.0001	0.0000
2267002033	Construction	LPG Bore/Drill Rigs	MOVES	0.0001	0.0000
2267002039	Construction	LPG Concrete/Industrial Saws	MOVES	0.0000	0.0000
2267002045	Construction	LPG Cranes	MOVES	0.0001	0.0000
2267002054	Construction	LPG Crushing/Proc. Equipment	MOVES	0.0000	0.0000
2267002057	Construction	LPG Rough Terrain Forklifts	MOVES	0.0001	0.0000

# Sheboygan County Redesignation Request

SCC	Segment Description	SCC Description	Emissions from	Sheboygan County 2014 Emissions	
				NOx	VOC
2267002060	Construction	LPG Rubber Tire Loaders	MOVES	0.0001	0.0000
2267002066	Construction	LPG Tractors/Loaders/Backhoes	MOVES	0.0000	0.0000
2267002072	Construction	LPG Skid Steer Loaders	MOVES	0.0003	0.0001
2267002081	Construction	LPG Other Construction Equipment	MOVES	0.0001	0.0000
2267003010	Industrial	LPG Aerial Lifts	MOVES	0.0067	0.0014
2267003020	Industrial	LPG Forklifts	MOVES	0.2244	0.0422
2267003030	Industrial	LPG Sweepers/Scrubbers	MOVES	0.0013	0.0002
2267003040	Industrial	LPG Other General Industrial Equipment	MOVES	0.0004	0.0001
2267003050	Industrial	LPG Other Material Handling Equipment	MOVES	0.0003	0.0001
2267003070	Industrial	LPG Terminal Tractors	MOVES	0.0006	0.0001
2267004066	Lawn/Garden	LPG Chippers/Stump Grinders (Commercial)	MOVES	0.0004	0.0001
2267005055	Agriculture	LPG Other Agricultural Equipment	MOVES	0.0000	0.0000
2267005060	Agriculture	LPG Irrigation Sets	MOVES	0.0000	0.0000
2267006005	Commercial	LPG Light Commercial Generator Sets	MOVES	0.0049	0.0008
2267006010	Commercial	LPG Light Commercial Pumps	MOVES	0.0007	0.0001
2267006015	Commercial	LPG Light Commercial Air Compressors	MOVES	0.0006	0.0001
2267006025	Commercial	LPG Light Commercial Welders	MOVES	0.0007	0.0002
2267006030	Commercial	LPG Light Commercial Pressure Washers	MOVES	0.0000	0.0000
2267006035	Commercial	LPG Hydro Power Units	MOVES	0.0000	0.0000
2267008005	Airport	LPG Airport Support Equipment	USEPA	0.0000	0.0000
2268002081	Construction	CNG Other Construction Equipment	MOVES	0.0000	0.0000
2268003020	Industrial	CNG Forklifts	MOVES	0.0161	0.0108
2268003030	Industrial	CNG Sweepers/Scrubbers	MOVES	0.0000	0.0000
2268003040	Industrial	CNG Other General Industrial Equipment	MOVES	0.0000	0.0000
2268003060	Industrial	CNG AC/Refrigeration	MOVES	0.0000	0.0000
2268003070	Industrial	CNG Terminal Tractors	MOVES	0.0000	0.0000
2268005055	Agriculture	CNG Other Agricultural Equipment	MOVES	0.0000	0.0000
2268005060	Agriculture	CNG Irrigation Sets	MOVES	0.0000	0.0000
2268006005	Commercial	CNG Light Commercial Generator Sets	MOVES	0.0015	0.0009
2268006010	Commercial	CNG Light Commercial Pumps	MOVES	0.0001	0.0000
2268006015	Commercial	CNG Light Commercial Air Compressors	MOVES	0.0000	0.0000
2268006020	Commercial	CNG Light Commercial Gas Compressors	MOVES	0.0006	0.0003
2268008005	Airport	CNG Airport Support Equipment	USEPA	0.0000	0.0000
2268010010	Oil Field	CNG Other Oil Field Equipment	MOVES	0.0000	0.0000
2270001060	Recreational	Diesel Specialty Vehicle Carts	MOVES	0.0031	0.0008
2270002003	Construction	Diesel Pavers	MOVES	0.0072	0.0006
2270002006	Construction	Diesel Tampers/Rammers (unused)	MOVES	0.0000	0.0000
2270002009	Construction	Diesel Plate Compactors	MOVES	0.0003	0.0000
2270002015	Construction	Diesel Rollers	MOVES	0.0195	0.0017
2270002018	Construction	Diesel Scrapers	MOVES	0.0199	0.0014
2270002021	Construction	Diesel Paving Equipment	MOVES	0.0013	0.0001
2270002024	Construction	Diesel Surfacing Equipment	MOVES	0.0010	0.0001
2270002027	Construction	Diesel Signal Boards	MOVES	0.0031	0.0003
2270002030	Construction	Diesel Trenchers	MOVES	0.0111	0.0010
2270002033	Construction	Diesel Bore/Drill Rigs	MOVES	0.0131	0.0011
2270002036	Construction	Diesel Excavators	MOVES	0.0615	0.0056
2270002039	Construction	Diesel Concrete/Industrial Saws	MOVES	0.0008	0.0001
2270002042	Construction	Diesel Cement & Mortar Mixers	MOVES	0.0005	0.0001
2270002045	Construction	Diesel Cranes	MOVES	0.0191	0.0015
2270002048	Construction	Diesel Graders	MOVES	0.0153	0.0014
2270002051	Construction	Diesel Off-highway Trucks	MOVES	0.0638	0.0055
2270002054	Construction	Diesel Crushing/Proc. Equipment	MOVES	0.0038	0.0003
2270002057	Construction	Diesel Rough Terrain Forklifts	MOVES	0.0269	0.0025
2270002060	Construction	Diesel Rubber Tire Loaders	MOVES	0.0919	0.0073
2270002066	Construction	Diesel Tractors/Loaders/Backhoes	MOVES	0.0705	0.0139
2270002069	Construction	Diesel Crawler Tractors	MOVES	0.0742	0.0060
2270002072	Construction	Diesel Skid Steer Loaders	MOVES	0.0519	0.0122

# Sheboygan County Redesignation Request

SCC	Segment Description	SCC Description	Emissions from	Sheboygan County 2014 Emissions	
				NO <sub>x</sub>	VOC
2270002075	Construction	Diesel Off-Highway Tractors	MOVES	0.0105	0.0008
2270002078	Construction	Diesel Dumpers/Tenders	MOVES	0.0002	0.0000
2270002081	Construction	Diesel Other Construction Equipment	MOVES	0.0103	0.0008
2270003010	Industrial	Diesel Aerial Lifts	MOVES	0.0112	0.0028
2270003020	Industrial	Diesel Forklifts	MOVES	0.0735	0.0062
2270003030	Industrial	Diesel Sweepers/Scrubbers	MOVES	0.0413	0.0036
2270003040	Industrial	Diesel Other General Industrial Equipment	MOVES	0.0503	0.0044
2270003050	Industrial	Diesel Other Material Handling Equipment	MOVES	0.0029	0.0005
2270003060	Industrial	Diesel AC/Refrigeration	MOVES	0.0434	0.0032
2270003070	Industrial	Diesel Terminal Tractors	MOVES	0.0441	0.0043
2270004031	Lawn/Garden	Diesel Leafblowers/Vacuums (Commercial)	MOVES	0.0000	0.0000
2270004036	Lawn/Garden	Diesel Snowblowers (Commercial)	MOVES	0.0000	0.0000
2270004046	Lawn/Garden	Diesel Front Mowers (Commercial)	MOVES	0.0113	0.0012
2270004056	Lawn/Garden	Diesel Lawn & Garden Tractors (Commercial)	MOVES	0.0023	0.0003
2270004066	Lawn/Garden	Diesel Chippers/Stump Grinders (Commercial)	MOVES	0.0156	0.0015
2270004071	Lawn/Garden	Diesel Commercial Turf Equipment (Comm.)	MOVES	0.0014	0.0001
2270004076	Lawn/Garden	Diesel Other Lawn & Garden Equipment (Comm)	MOVES	0.0000	0.0000
2270005010	Agriculture	Diesel 2-Wheel Tractors	MOVES	0.0000	0.0000
2270005015	Agriculture	Diesel Agricultural Tractors	MOVES	0.8713	0.0792
2270005020	Agriculture	Diesel Combines	MOVES	0.0937	0.0084
2270005025	Agriculture	Diesel Balers	MOVES	0.0005	0.0001
2270005030	Agriculture	Diesel Agricultural Mowers	MOVES	0.0001	0.0000
2270005035	Agriculture	Diesel Sprayers	MOVES	0.0075	0.0009
2270005040	Agriculture	Diesel Tillers > 6 HP	MOVES	0.0000	0.0000
2270005045	Agriculture	Diesel Swathers	MOVES	0.0070	0.0008
2270005055	Agriculture	Diesel Other Agricultural Equipment	MOVES	0.0187	0.0018
2270005060	Agriculture	Diesel Irrigation Sets	MOVES	0.0113	0.0010
2270006005	Commercial	Diesel Light Commercial Generator Sets	MOVES	0.0252	0.0028
2270006010	Commercial	Diesel Light Commercial Pumps	MOVES	0.0059	0.0006
2270006015	Commercial	Diesel Light Commercial Air Compressors	MOVES	0.0126	0.0011
2270006025	Commercial	Diesel Light Commercial Welders	MOVES	0.0077	0.0019
2270006030	Commercial	Diesel Light Commercial Pressure Washer	MOVES	0.0008	0.0001
2270006035	Commercial	Diesel Hydro Power Units	MOVES	0.0006	0.0001
2270007015	Logging	Diesel Logging Equip Fell/Bunch/Skidlers	MOVES	0.0011	0.0001
2270008005	Airport	Diesel Airport Support Equipment	USEPA	0.0000	0.0000
2270010010	Oil Field	Diesel Other Oil Field Equipment	MOVES	0.0000	0.0000
2275001000	Aircraft	Military Aircraft	USEPA	0.0001	0.0005
2275020000	Aircraft	Commercial Aviation	USEPA	0.0000	0.0000
2275050000	Aircraft	General Aviation	USEPA	0.0055	0.0121
2275060000	Aircraft	Air Taxi	USEPA	0.0022	0.0029
2275070000	Aircraft	Aircraft Auxiliary Power Units	USEPA	0.0000	0.0000
2280000000	Comm. Mar.	All Commercial Marine Vessels	LADCO	0.4873	0.0074
2282005010	Pleasure Craft	2-Stroke Outboards	MOVES	0.0416	0.3665
2282005015	Pleasure Craft	2-Stroke Personal Watercraft	MOVES	0.0177	0.0771
2282010005	Pleasure Craft	4-Stroke Inboards	MOVES	0.1563	0.1666
2282020005	Pleasure Craft	Diesel Inboards	MOVES	0.1712	0.0086
2282020010	Pleasure Craft	Diesel Outboards	MOVES	0.0001	0.0000
2285002006	Railroad	Diesel Locomotives	USEPA	0.0881	0.0037
2285002015	Railroad	Diesel Railway Maintenance	MOVES	0.0004	0.0001
2285004015	Railroad	4-Stroke Gasoline Railway Maintenance	MOVES	0.0000	0.0000
2285006015	Railroad	LPG Railway Maintenance	MOVES	0.0000	0.0000
<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>ALL (Total)</b>		<b>3.3273</b>	<b>2.7175</b>

Sheboygan County Redesignation Request

**Table A7.3. 2020 Nonroad NO<sub>x</sub> and VOC Emissions: tons per summer day (tpsd)  
Sheboygan County**

SCC	Segment Description	SCC Description	Emissions from	Sheboygan County 2020 Emissions	
				NO <sub>x</sub>	VOC
2260001010	Recreational	2-Stroke Motorcycles: Off-Road	MOVES	0.0041	0.3342
2260001020	Recreational	2-Stroke Snowmobiles	MOVES	0.0000	0.0364
2260001030	Recreational	2-Stroke All Terrain Vehicles	MOVES	0.0060	0.1549
2260001060	Recreational	2-Stroke Specialty Vehicle Carts	MOVES	0.0006	0.0030
2260002006	Construction	2-Stroke Tampers/Rammers	MOVES	0.0001	0.0047
2260002009	Construction	2-Stroke Plate Compactors	MOVES	0.0000	0.0002
2260002021	Construction	2-Stroke Paving Equipment	MOVES	0.0000	0.0002
2260002027	Construction	2-Stroke Signal Boards	MOVES	0.0000	0.0000
2260002039	Construction	2-Stroke Concrete/Industrial Saws	MOVES	0.0003	0.0118
2260002054	Construction	2-Stroke Crushing/Proc. Equipment	MOVES	0.0000	0.0000
2260003030	Industrial	2-Stroke Sweepers/Scrubbers	MOVES	0.0000	0.0001
2260003040	Industrial	2-Stroke Other General Industrial Equipment	MOVES	0.0000	0.0000
2260004015	Lawn/Garden	2-Stroke Rotary Tillers < 6 HP (Residential)	MOVES	0.0001	0.0016
2260004016	Lawn/Garden	2-Stroke Rotary Tillers < 6 HP (Commercial)	MOVES	0.0001	0.0029
2260004020	Lawn/Garden	2-Stroke Chain Saws < 6 HP (Residential)	MOVES	0.0004	0.0153
2260004021	Lawn/Garden	2-Stroke Chain Saws < 6 HP (Commercial)	MOVES	0.0008	0.0339
2260004025	Lawn/Garden	2-Stroke Trimmers/Edgers/Brush Cutters (Res.)	MOVES	0.0012	0.0322
2260004026	Lawn/Garden	2-Stroke Trimmers/Edgers/Brush Cutters (Com.)	MOVES	0.0013	0.0340
2260004030	Lawn/Garden	2-Stroke Leafblowers/Vacuums (Residential)	MOVES	0.0008	0.0221
2260004031	Lawn/Garden	2-Stroke Leafblowers/Vacuums (Commercial)	MOVES	0.0012	0.0341
2260004035	Lawn/Garden	2-Stroke Snowblowers (Residential)	MOVES	0.0000	0.0020
2260004036	Lawn/Garden	2-Stroke Snowblowers (Commercial)	MOVES	0.0000	0.0001
2260004071	Lawn/Garden	2-Stroke Commercial Turf Equipment	MOVES	0.0000	0.0000
2260005035	Agriculture	2-Stroke Sprayers	MOVES	0.0000	0.0008
2260006005	Commercial	2-Stroke Light Commercial Generator Set	MOVES	0.0000	0.0013
2260006010	Commercial	2-Stroke Light Commercial Pumps	MOVES	0.0003	0.0091
2260006015	Commercial	2-Stroke Light Commercial Air Compressors	MOVES	0.0000	0.0000
2260006035	Commercial	2-Stroke Hydro Power Units	MOVES	0.0000	0.0001
2260007005	Logging	2-Stroke Logging Equipment Chain Saws > 6 HP	MOVES	0.0000	0.0011
2265001010	Recreational	4-Stroke Motorcycles: Off-Road	MOVES	0.0022	0.0178
2265001030	Recreational	4-Stroke All Terrain Vehicles	MOVES	0.0171	0.2025
2265001050	Recreational	4-Stroke Golf Carts	MOVES	0.0084	0.0284
2265001060	Recreational	4-Stroke Specialty Vehicle Carts	MOVES	0.0008	0.0029
2265002003	Construction	4-Stroke Asphalt Pavers	MOVES	0.0001	0.0002
2265002006	Construction	4-Stroke Tampers/Rammers	MOVES	0.0000	0.0000
2265002009	Construction	4-Stroke Plate Compactors	MOVES	0.0001	0.0006
2265002015	Construction	4-Stroke Rollers	MOVES	0.0001	0.0004
2265002021	Construction	4-Stroke Paving Equipment	MOVES	0.0003	0.0012
2265002024	Construction	4-Stroke Surfacing Equipment	MOVES	0.0001	0.0004
2265002027	Construction	4-Stroke Signal Boards	MOVES	0.0000	0.0000
2265002030	Construction	4-Stroke Trenchers	MOVES	0.0002	0.0007
2265002033	Construction	4-Stroke Bore/Drill Rigs	MOVES	0.0001	0.0004
2265002039	Construction	4-Stroke Concrete/Industrial Saws	MOVES	0.0005	0.0016
2265002042	Construction	4-Stroke Cement & Mortar Mixers	MOVES	0.0002	0.0016
2265002045	Construction	4-Stroke Cranes	MOVES	0.0000	0.0000
2265002054	Construction	4-Stroke Crushing/Proc. Equipment	MOVES	0.0000	0.0001
2265002057	Construction	4-Stroke Rough Terrain Forklifts	MOVES	0.0000	0.0000
2265002060	Construction	4-Stroke Rubber Tire Loaders	MOVES	0.0001	0.0000
2265002066	Construction	4-Stroke Tractors/Loaders/Backhoes	MOVES	0.0002	0.0005
2265002072	Construction	4-Stroke Skid Steer Loaders	MOVES	0.0002	0.0003
2265002078	Construction	4-Stroke Dumpers/Tenders	MOVES	0.0000	0.0003
2265002081	Construction	4-Stroke Other Construction Equipment	MOVES	0.0001	0.0000
2265003010	Industrial	4-Stroke Aerial Lifts	MOVES	0.0010	0.0010

# Sheboygan County Redesignation Request

SCC	Segment Description	SCC Description	Emissions from	Sheboygan County 2020 Emissions	
				NO <sub>x</sub>	VOC
2265003020	Industrial	4-Stroke Forklifts	MOVES	0.0006	0.0003
2265003030	Industrial	4-Stroke Sweepers/Scrubbers	MOVES	0.0002	0.0003
2265003040	Industrial	4-Stroke Other General Industrial Equipment	MOVES	0.0003	0.0013
2265003050	Industrial	4-Stroke Other Material Handling Equipment	MOVES	0.0000	0.0001
2265003060	Industrial	4-Stroke Industrial AC/Refrigeration	MOVES	0.0000	0.0000
2265003070	Industrial	4-Stroke Terminal Tractors	MOVES	0.0001	0.0000
2265004010	Lawn/Garden	4-Stroke Lawn mowers (Residential)	MOVES	0.0080	0.0746
2265004011	Lawn/Garden	4-Stroke Lawn mowers (Commercial)	MOVES	0.0028	0.0180
2265004015	Lawn/Garden	4-Stroke Rotary Tillers < 6 HP (Residential)	MOVES	0.0007	0.0064
2265004016	Lawn/Garden	4-Stroke Rotary Tillers < 6 HP (Commercial)	MOVES	0.0014	0.0102
2265004025	Lawn/Garden	4-Stroke Trimmers/Edgers/Brush Cutters (Res.)	MOVES	0.0000	0.0005
2265004026	Lawn/Garden	4-Stroke Trimmers/Edgers/Brush Cutters (Com.)	MOVES	0.0001	0.0005
2265004030	Lawn/Garden	4-Stroke Leafblowers/Vacuums (Residential)	MOVES	0.0001	0.0008
2265004031	Lawn/Garden	4-Stroke Leafblowers/Vacuums (Commercial)	MOVES	0.0027	0.0113
2265004035	Lawn/Garden	4-Stroke Snowblowers (Residential)	MOVES	0.0000	0.0048
2265004036	Lawn/Garden	4-Stroke Snowblowers (Commercial)	MOVES	0.0000	0.0003
2265004040	Lawn/Garden	4-Stroke Rear Engine Riding Mowers (Res.)	MOVES	0.0016	0.0119
2265004041	Lawn/Garden	4-Stroke Rear Engine Riding Mowers (Comm.)	MOVES	0.0003	0.0011
2265004046	Lawn/Garden	4-Stroke Front Mowers (Commercial)	MOVES	0.0004	0.0015
2265004051	Lawn/Garden	4-Stroke Shredders < 6 HP (Commercial)	MOVES	0.0002	0.0012
2265004055	Lawn/Garden	4-Stroke Lawn & Garden Tractors (Residential)	MOVES	0.0209	0.1179
2265004056	Lawn/Garden	4-Stroke Lawn & Garden Tractors (Commercial)	MOVES	0.0041	0.0144
2265004066	Lawn/Garden	4-Stroke Chippers/Stump Grinders (Comm.)	MOVES	0.0007	0.0016
2265004071	Lawn/Garden	4-Stroke Commercial Turf Equipment (Comm.)	MOVES	0.0133	0.0430
2265004075	Lawn/Garden	4-Stroke Other Lawn & Garden Equip. (Res.)	MOVES	0.0008	0.0057
2265004076	Lawn/Garden	4-Stroke Other Lawn & Garden Equip. (Com.)	MOVES	0.0005	0.0031
2265005010	Agriculture	4-Stroke 2-Wheel Tractors	MOVES	0.0001	0.0002
2265005015	Agriculture	4-Stroke Agricultural Tractors	MOVES	0.0002	0.0003
2265005020	Agriculture	4-Stroke Combines	MOVES	0.0000	0.0000
2265005025	Agriculture	4-Stroke Balers	MOVES	0.0006	0.0008
2265005030	Agriculture	4-Stroke Agricultural Mowers	MOVES	0.0001	0.0002
2265005035	Agriculture	4-Stroke Sprayers	MOVES	0.0011	0.0028
2265005040	Agriculture	4-Stroke Tillers > 5 HP	MOVES	0.0021	0.0082
2265005045	Agriculture	4-Stroke Swathers	MOVES	0.0010	0.0011
2265005055	Agriculture	4-Stroke Other Agricultural Equipment	MOVES	0.0012	0.0013
2265005060	Agriculture	4-Stroke Irrigation Sets	MOVES	0.0004	0.0003
2265006005	Commercial	4-Stroke Light Commercial Generator Set	MOVES	0.0072	0.0429
2265006010	Commercial	4-Stroke Light Commercial Pumps	MOVES	0.0019	0.0083
2265006015	Commercial	4-Stroke Light Commercial Air Compressors	MOVES	0.0010	0.0032
2265006025	Commercial	4-Stroke Light Commercial Welders	MOVES	0.0021	0.0072
2265006030	Commercial	4-Stroke Light Commercial Pressure Wash	MOVES	0.0032	0.0168
2265006035	Commercial	4-Stroke Hydro Power Units	MOVES	0.0002	0.0006
2265007010	Logging	4-Stroke Logging Equipment Shredders > 6 HP	MOVES	0.0000	0.0002
2265007015	Logging	4-Stroke Logging Equipment Skidders	MOVES	0.0000	0.0000
2265008005	Airport	4-Stroke Airport Support Equipment	USEPA	0.0000	0.0000
2265010010	Oil Field	4-Stroke Other Oil Field Equipment	MOVES	0.0000	0.0000
2267001060	Recreational	LPG Specialty Vehicle Carts	MOVES	0.0002	0.0000
2267002003	Construction	LPG Asphalt Pavers	MOVES	0.0000	0.0000
2267002015	Construction	LPG Rollers	MOVES	0.0000	0.0000
2267002021	Construction	LPG Paving Equipment	MOVES	0.0000	0.0000
2267002024	Construction	LPG Surfacing Equipment	MOVES	0.0000	0.0000
2267002030	Construction	LPG Trenchers	MOVES	0.0001	0.0000
2267002033	Construction	LPG Bore/Drill Rigs	MOVES	0.0001	0.0000
2267002039	Construction	LPG Concrete/Industrial Saws	MOVES	0.0000	0.0000
2267002045	Construction	LPG Cranes	MOVES	0.0000	0.0000
2267002054	Construction	LPG Crushing/Proc. Equipment	MOVES	0.0000	0.0000
2267002057	Construction	LPG Rough Terrain Forklifts	MOVES	0.0000	0.0000

# Sheboygan County Redesignation Request

SCC	Segment Description	SCC Description	Emissions from	Sheboygan County 2020 Emissions	
				NOx	VOC
2267002060	Construction	LPG Rubber Tire Loaders	MOVES	0.0001	0.0000
2267002066	Construction	LPG Tractors/Loaders/Backhoes	MOVES	0.0000	0.0000
2267002072	Construction	LPG Skid Steer Loaders	MOVES	0.0001	0.0000
2267002081	Construction	LPG Other Construction Equipment	MOVES	0.0001	0.0000
2267003010	Industrial	LPG Aerial Lifts	MOVES	0.0038	0.0008
2267003020	Industrial	LPG Forklifts	MOVES	0.1373	0.0169
2267003030	Industrial	LPG Sweepers/Scrubbers	MOVES	0.0010	0.0001
2267003040	Industrial	LPG Other General Industrial Equipment	MOVES	0.0003	0.0000
2267003050	Industrial	LPG Other Material Handling Equipment	MOVES	0.0002	0.0000
2267003070	Industrial	LPG Terminal Tractors	MOVES	0.0006	0.0001
2267004066	Lawn/Garden	LPG Chippers/Stump Grinders (Commercial)	MOVES	0.0002	0.0000
2267005055	Agriculture	LPG Other Agricultural Equipment	MOVES	0.0000	0.0000
2267005060	Agriculture	LPG Irrigation Sets	MOVES	0.0000	0.0000
2267006005	Commercial	LPG Light Commercial Generator Sets	MOVES	0.0037	0.0006
2267006010	Commercial	LPG Light Commercial Pumps	MOVES	0.0005	0.0001
2267006015	Commercial	LPG Light Commercial Air Compressors	MOVES	0.0003	0.0000
2267006025	Commercial	LPG Light Commercial Welders	MOVES	0.0004	0.0001
2267006030	Commercial	LPG Light Commercial Pressure Washers	MOVES	0.0000	0.0000
2267006035	Commercial	LPG Hydro Power Units	MOVES	0.0000	0.0000
2267008005	Airport	LPG Airport Support Equipment	USEPA	0.0000	0.0000
2268002081	Construction	CNG Other Construction Equipment	MOVES	0.0000	0.0000
2268003020	Industrial	CNG Forklifts	MOVES	0.0098	0.0044
2268003030	Industrial	CNG Sweepers/Scrubbers	MOVES	0.0000	0.0000
2268003040	Industrial	CNG Other General Industrial Equipment	MOVES	0.0000	0.0000
2268003060	Industrial	CNG AC/Refrigeration	MOVES	0.0000	0.0000
2268003070	Industrial	CNG Terminal Tractors	MOVES	0.0000	0.0000
2268005055	Agriculture	CNG Other Agricultural Equipment	MOVES	0.0000	0.0000
2268005060	Agriculture	CNG Irrigation Sets	MOVES	0.0000	0.0000
2268006005	Commercial	CNG Light Commercial Generator Sets	MOVES	0.0011	0.0007
2268006010	Commercial	CNG Light Commercial Pumps	MOVES	0.0000	0.0000
2268006015	Commercial	CNG Light Commercial Air Compressors	MOVES	0.0000	0.0000
2268006020	Commercial	CNG Light Commercial Gas Compressors	MOVES	0.0007	0.0003
2268008005	Airport	CNG Airport Support Equipment	USEPA	0.0000	0.0000
2268010010	Oil Field	CNG Other Oil Field Equipment	MOVES	0.0000	0.0000
2270001060	Recreational	Diesel Specialty Vehicle Carts	MOVES	0.0026	0.0005
2270002003	Construction	Diesel Pavers	MOVES	0.0036	0.0005
2270002006	Construction	Diesel Tampers/Rammers (unused)	MOVES	0.0000	0.0000
2270002009	Construction	Diesel Plate Compactors	MOVES	0.0003	0.0000
2270002015	Construction	Diesel Rollers	MOVES	0.0106	0.0013
2270002018	Construction	Diesel Scrapers	MOVES	0.0094	0.0013
2270002021	Construction	Diesel Paving Equipment	MOVES	0.0008	0.0001
2270002024	Construction	Diesel Surfacing Equipment	MOVES	0.0007	0.0001
2270002027	Construction	Diesel Signal Boards	MOVES	0.0031	0.0003
2270002030	Construction	Diesel Trenchers	MOVES	0.0082	0.0007
2270002033	Construction	Diesel Bore/Drill Rigs	MOVES	0.0097	0.0009
2270002036	Construction	Diesel Excavators	MOVES	0.0230	0.0049
2270002039	Construction	Diesel Concrete/Industrial Saws	MOVES	0.0006	0.0000
2270002042	Construction	Diesel Cement & Mortar Mixers	MOVES	0.0004	0.0000
2270002045	Construction	Diesel Cranes	MOVES	0.0097	0.0012
2270002048	Construction	Diesel Graders	MOVES	0.0055	0.0012
2270002051	Construction	Diesel Off-highway Trucks	MOVES	0.0433	0.0047
2270002054	Construction	Diesel Crushing/Proc. Equipment	MOVES	0.0023	0.0002
2270002057	Construction	Diesel Rough Terrain Forklifts	MOVES	0.0144	0.0018
2270002060	Construction	Diesel Rubber Tire Loaders	MOVES	0.0508	0.0060
2270002066	Construction	Diesel Tractors/Loaders/Backhoes	MOVES	0.0486	0.0092
2270002069	Construction	Diesel Crawler Tractors	MOVES	0.0362	0.0052
2270002072	Construction	Diesel Skid Steer Loaders	MOVES	0.0442	0.0084

# Sheboygan County Redesignation Request

SCC	Segment Description	SCC Description	Emissions from	Sheboygan County 2020 Emissions	
				NOx	VOC
2270002075	Construction	Diesel Off-Highway Tractors	MOVES	0.0070	0.0006
2270002078	Construction	Diesel Dumpers/Tenders	MOVES	0.0001	0.0000
2270002081	Construction	Diesel Other Construction Equipment	MOVES	0.0065	0.0006
2270003010	Industrial	Diesel Aerial Lifts	MOVES	0.0098	0.0020
2270003020	Industrial	Diesel Forklifts	MOVES	0.0395	0.0058
2270003030	Industrial	Diesel Sweepers/Scrubbers	MOVES	0.0190	0.0029
2270003040	Industrial	Diesel Other General Industrial Equipment	MOVES	0.0264	0.0033
2270003050	Industrial	Diesel Other Material Handling Equipment	MOVES	0.0022	0.0004
2270003060	Industrial	Diesel AC/Refrigeration	MOVES	0.0419	0.0024
2270003070	Industrial	Diesel Terminal Tractors	MOVES	0.0132	0.0039
2270004031	Lawn/Garden	Diesel Leafblowers/Vacuums (Commercial)	MOVES	0.0000	0.0000
2270004036	Lawn/Garden	Diesel Snowblowers (Commercial)	MOVES	0.0000	0.0000
2270004046	Lawn/Garden	Diesel Front Mowers (Commercial)	MOVES	0.0114	0.0010
2270004056	Lawn/Garden	Diesel Lawn & Garden Tractors (Commercial)	MOVES	0.0026	0.0003
2270004066	Lawn/Garden	Diesel Chippers/Stump Grinders (Commercial)	MOVES	0.0121	0.0012
2270004071	Lawn/Garden	Diesel Commercial Turf Equipment (Comm.)	MOVES	0.0010	0.0001
2270004076	Lawn/Garden	Diesel Other Lawn & Garden Equipment (Comm)	MOVES	0.0000	0.0000
2270005010	Agriculture	Diesel 2-Wheel Tractors	MOVES	0.0000	0.0000
2270005015	Agriculture	Diesel Agricultural Tractors	MOVES	0.5912	0.0589
2270005020	Agriculture	Diesel Combines	MOVES	0.0674	0.0066
2270005025	Agriculture	Diesel Balers	MOVES	0.0004	0.0000
2270005030	Agriculture	Diesel Agricultural Mowers	MOVES	0.0001	0.0000
2270005035	Agriculture	Diesel Sprayers	MOVES	0.0055	0.0006
2270005040	Agriculture	Diesel Tillers > 6 HP	MOVES	0.0000	0.0000
2270005045	Agriculture	Diesel Swathers	MOVES	0.0054	0.0006
2270005055	Agriculture	Diesel Other Agricultural Equipment	MOVES	0.0130	0.0014
2270005060	Agriculture	Diesel Irrigation Sets	MOVES	0.0066	0.0007
2270006005	Commercial	Diesel Light Commercial Generator Sets	MOVES	0.0214	0.0022
2270006010	Commercial	Diesel Light Commercial Pumps	MOVES	0.0049	0.0005
2270006015	Commercial	Diesel Light Commercial Air Compressors	MOVES	0.0084	0.0008
2270006025	Commercial	Diesel Light Commercial Welders	MOVES	0.0070	0.0012
2270006030	Commercial	Diesel Light Commercial Pressure Washer	MOVES	0.0007	0.0001
2270006035	Commercial	Diesel Hydro Power Units	MOVES	0.0004	0.0000
2270007015	Logging	Diesel Logging Equip Fell/Bunch/Skidlers	MOVES	0.0003	0.0001
2270008005	Airport	Diesel Airport Support Equipment	USEPA	0.0000	0.0000
2270010010	Oil Field	Diesel Other Oil Field Equipment	MOVES	0.0000	0.0000
2275001000	Aircraft	Military Aircraft	USEPA	0.0001	0.0005
2275020000	Aircraft	Commercial Aviation	USEPA	0.0000	0.0000
2275050000	Aircraft	General Aviation	USEPA	0.0055	0.0121
2275060000	Aircraft	Air Taxi	USEPA	0.0022	0.0029
2275070000	Aircraft	Aircraft Auxiliary Power Units	USEPA	0.0000	0.0000
2280000000	Comm. Mar.	All Commercial Marine Vessels	LADCO	0.4745	0.0081
2282005010	Pleasure Craft	2-Stroke Outboards	MOVES	0.0448	0.2088
2282005015	Pleasure Craft	2-Stroke Personal Watercraft	MOVES	0.0207	0.0319
2282010005	Pleasure Craft	4-Stroke Inboards	MOVES	0.1221	0.1340
2282020005	Pleasure Craft	Diesel Inboards	MOVES	0.1669	0.0099
2282020010	Pleasure Craft	Diesel Outboards	MOVES	0.0001	0.0000
2285002006	Railroad	Diesel Locomotives	USEPA	0.0841	0.0035
2285002015	Railroad	Diesel Railway Maintenance	MOVES	0.0003	0.0001
2285004015	Railroad	4-Stroke Gasoline Railway Maintenance	MOVES	0.0000	0.0000
2285006015	Railroad	LPG Railway Maintenance	MOVES	0.0000	0.0000
<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>ALL (Total)</b>		<b>2.4673</b>	<b>2.0053</b>

Sheboygan County Redesignation Request

**Table A7.4. 2030 Nonroad NO<sub>x</sub> and VOC Emissions: tons per summer day (tpsd)  
Sheboygan County**

SCC	Segment Description	SCC Description	Emissions from	Sheboygan County 2030 Emissions	
				NO <sub>x</sub>	VOC
2260001010	Recreational	2-Stroke Motorcycles: Off-Road	MOVES	0.0046	0.3374
2260001020	Recreational	2-Stroke Snowmobiles	MOVES	0.0000	0.0354
2260001030	Recreational	2-Stroke All Terrain Vehicles	MOVES	0.0063	0.0643
2260001060	Recreational	2-Stroke Specialty Vehicle Carts	MOVES	0.0006	0.0031
2260002006	Construction	2-Stroke Tampers/Rammers	MOVES	0.0001	0.0048
2260002009	Construction	2-Stroke Plate Compactors	MOVES	0.0000	0.0002
2260002021	Construction	2-Stroke Paving Equipment	MOVES	0.0000	0.0002
2260002027	Construction	2-Stroke Signal Boards	MOVES	0.0000	0.0000
2260002039	Construction	2-Stroke Concrete/Industrial Saws	MOVES	0.0003	0.0121
2260002054	Construction	2-Stroke Crushing/Proc. Equipment	MOVES	0.0000	0.0000
2260003030	Industrial	2-Stroke Sweepers/Scrubbers	MOVES	0.0000	0.0000
2260003040	Industrial	2-Stroke Other General Industrial Equipment	MOVES	0.0000	0.0000
2260004015	Lawn/Garden	2-Stroke Rotary Tillers < 6 HP (Residential)	MOVES	0.0001	0.0018
2260004016	Lawn/Garden	2-Stroke Rotary Tillers < 6 HP (Commercial)	MOVES	0.0002	0.0033
2260004020	Lawn/Garden	2-Stroke Chain Saws < 6 HP (Residential)	MOVES	0.0005	0.0177
2260004021	Lawn/Garden	2-Stroke Chain Saws < 6 HP (Commercial)	MOVES	0.0009	0.0390
2260004025	Lawn/Garden	2-Stroke Trimmers/Edgers/Brush Cutters (Res.)	MOVES	0.0014	0.0371
2260004026	Lawn/Garden	2-Stroke Trimmers/Edgers/Brush Cutters (Com.)	MOVES	0.0015	0.0392
2260004030	Lawn/Garden	2-Stroke Leafblowers/Vacuums (Residential)	MOVES	0.0009	0.0255
2260004031	Lawn/Garden	2-Stroke Leafblowers/Vacuums (Commercial)	MOVES	0.0014	0.0393
2260004035	Lawn/Garden	2-Stroke Snowblowers (Residential)	MOVES	0.0000	0.0023
2260004036	Lawn/Garden	2-Stroke Snowblowers (Commercial)	MOVES	0.0000	0.0001
2260004071	Lawn/Garden	2-Stroke Commercial Turf Equipment	MOVES	0.0000	0.0000
2260005035	Agriculture	2-Stroke Sprayers	MOVES	0.0000	0.0009
2260006005	Commercial	2-Stroke Light Commercial Generator Set	MOVES	0.0001	0.0016
2260006010	Commercial	2-Stroke Light Commercial Pumps	MOVES	0.0004	0.0109
2260006015	Commercial	2-Stroke Light Commercial Air Compressors	MOVES	0.0000	0.0000
2260006035	Commercial	2-Stroke Hydro Power Units	MOVES	0.0000	0.0001
2260007005	Logging	2-Stroke Logging Equipment Chain Saws > 6 HP	MOVES	0.0000	0.0014
2265001010	Recreational	4-Stroke Motorcycles: Off-Road	MOVES	0.0024	0.0186
2265001030	Recreational	4-Stroke All Terrain Vehicles	MOVES	0.0165	0.1963
2265001050	Recreational	4-Stroke Golf Carts	MOVES	0.0090	0.0303
2265001060	Recreational	4-Stroke Specialty Vehicle Carts	MOVES	0.0005	0.0020
2265002003	Construction	4-Stroke Asphalt Pavers	MOVES	0.0001	0.0002
2265002006	Construction	4-Stroke Tampers/Rammers	MOVES	0.0000	0.0000
2265002009	Construction	4-Stroke Plate Compactors	MOVES	0.0001	0.0006
2265002015	Construction	4-Stroke Rollers	MOVES	0.0001	0.0004
2265002021	Construction	4-Stroke Paving Equipment	MOVES	0.0003	0.0012
2265002024	Construction	4-Stroke Surfacing Equipment	MOVES	0.0001	0.0004
2265002027	Construction	4-Stroke Signal Boards	MOVES	0.0000	0.0000
2265002030	Construction	4-Stroke Trenchers	MOVES	0.0002	0.0007
2265002033	Construction	4-Stroke Bore/Drill Rigs	MOVES	0.0001	0.0004
2265002039	Construction	4-Stroke Concrete/Industrial Saws	MOVES	0.0005	0.0016
2265002042	Construction	4-Stroke Cement & Mortar Mixers	MOVES	0.0002	0.0016
2265002045	Construction	4-Stroke Cranes	MOVES	0.0000	0.0000
2265002054	Construction	4-Stroke Crushing/Proc. Equipment	MOVES	0.0000	0.0001
2265002057	Construction	4-Stroke Rough Terrain Forklifts	MOVES	0.0000	0.0000
2265002060	Construction	4-Stroke Rubber Tire Loaders	MOVES	0.0001	0.0000
2265002066	Construction	4-Stroke Tractors/Loaders/Backhoes	MOVES	0.0002	0.0005
2265002072	Construction	4-Stroke Skid Steer Loaders	MOVES	0.0001	0.0002
2265002078	Construction	4-Stroke Dumpers/Tenders	MOVES	0.0000	0.0002
2265002081	Construction	4-Stroke Other Construction Equipment	MOVES	0.0000	0.0000
2265003010	Industrial	4-Stroke Aerial Lifts	MOVES	0.0001	0.0001



# Sheboygan County Redesignation Request

SCC	Segment Description	SCC Description	Emissions from	Sheboygan County 2030 Emissions	
				NO <sub>x</sub>	VOC
2265003020	Industrial	4-Stroke Forklifts	MOVES	0.0000	0.0000
2265003030	Industrial	4-Stroke Sweepers/Scrubbers	MOVES	0.0000	0.0000
2265003040	Industrial	4-Stroke Other General Industrial Equipment	MOVES	0.0000	0.0000
2265003050	Industrial	4-Stroke Other Material Handling Equipment	MOVES	0.0000	0.0000
2265003060	Industrial	4-Stroke Industrial AC/Refrigeration	MOVES	0.0000	0.0000
2265003070	Industrial	4-Stroke Terminal Tractors	MOVES	0.0000	0.0000
2265004010	Lawn/Garden	4-Stroke Lawn mowers (Residential)	MOVES	0.0090	0.0836
2265004011	Lawn/Garden	4-Stroke Lawn mowers (Commercial)	MOVES	0.0033	0.0208
2265004015	Lawn/Garden	4-Stroke Rotary Tillers < 6 HP (Residential)	MOVES	0.0008	0.0071
2265004016	Lawn/Garden	4-Stroke Rotary Tillers < 6 HP (Commercial)	MOVES	0.0016	0.0118
2265004025	Lawn/Garden	4-Stroke Trimmers/Edgers/Brush Cutters (Res.)	MOVES	0.0001	0.0006
2265004026	Lawn/Garden	4-Stroke Trimmers/Edgers/Brush Cutters (Com.)	MOVES	0.0001	0.0006
2265004030	Lawn/Garden	4-Stroke Leafblowers/Vacuums (Residential)	MOVES	0.0001	0.0009
2265004031	Lawn/Garden	4-Stroke Leafblowers/Vacuums (Commercial)	MOVES	0.0030	0.0129
2265004035	Lawn/Garden	4-Stroke Snowblowers (Residential)	MOVES	0.0000	0.0055
2265004036	Lawn/Garden	4-Stroke Snowblowers (Commercial)	MOVES	0.0000	0.0003
2265004040	Lawn/Garden	4-Stroke Rear Engine Riding Mowers (Res.)	MOVES	0.0018	0.0135
2265004041	Lawn/Garden	4-Stroke Rear Engine Riding Mowers (Comm.)	MOVES	0.0003	0.0013
2265004046	Lawn/Garden	4-Stroke Front Mowers (Commercial)	MOVES	0.0004	0.0016
2265004051	Lawn/Garden	4-Stroke Shredders < 6 HP (Commercial)	MOVES	0.0002	0.0014
2265004055	Lawn/Garden	4-Stroke Lawn & Garden Tractors (Residential)	MOVES	0.0235	0.1340
2265004056	Lawn/Garden	4-Stroke Lawn & Garden Tractors (Commercial)	MOVES	0.0047	0.0165
2265004066	Lawn/Garden	4-Stroke Chippers/Stump Grinders (Comm.)	MOVES	0.0008	0.0018
2265004071	Lawn/Garden	4-Stroke Commercial Turf Equipment (Comm.)	MOVES	0.0153	0.0495
2265004075	Lawn/Garden	4-Stroke Other Lawn & Garden Equip. (Res.)	MOVES	0.0008	0.0060
2265004076	Lawn/Garden	4-Stroke Other Lawn & Garden Equip. (Com.)	MOVES	0.0005	0.0032
2265005010	Agriculture	4-Stroke 2-Wheel Tractors	MOVES	0.0001	0.0002
2265005015	Agriculture	4-Stroke Agricultural Tractors	MOVES	0.0003	0.0003
2265005020	Agriculture	4-Stroke Combines	MOVES	0.0000	0.0000
2265005025	Agriculture	4-Stroke Balers	MOVES	0.0003	0.0004
2265005030	Agriculture	4-Stroke Agricultural Mowers	MOVES	0.0001	0.0002
2265005035	Agriculture	4-Stroke Sprayers	MOVES	0.0008	0.0025
2265005040	Agriculture	4-Stroke Tillers > 5 HP	MOVES	0.0017	0.0063
2265005045	Agriculture	4-Stroke Swathers	MOVES	0.0005	0.0005
2265005055	Agriculture	4-Stroke Other Agricultural Equipment	MOVES	0.0006	0.0008
2265005060	Agriculture	4-Stroke Irrigation Sets	MOVES	0.0004	0.0003
2265006005	Commercial	4-Stroke Light Commercial Generator Set	MOVES	0.0083	0.0498
2265006010	Commercial	4-Stroke Light Commercial Pumps	MOVES	0.0022	0.0098
2265006015	Commercial	4-Stroke Light Commercial Air Compressors	MOVES	0.0011	0.0039
2265006025	Commercial	4-Stroke Light Commercial Welders	MOVES	0.0024	0.0086
2265006030	Commercial	4-Stroke Light Commercial Pressure Wash	MOVES	0.0038	0.0202
2265006035	Commercial	4-Stroke Hydro Power Units	MOVES	0.0002	0.0007
2265007010	Logging	4-Stroke Logging Equipment Shredders > 6 HP	MOVES	0.0000	0.0003
2265007015	Logging	4-Stroke Logging Equipment Skidders	MOVES	0.0000	0.0000
2265008005	Airport	4-Stroke Airport Support Equipment	USEPA	0.0000	0.0000
2265010010	Oil Field	4-Stroke Other Oil Field Equipment	MOVES	0.0000	0.0000
2267001060	Recreational	LPG Specialty Vehicle Carts	MOVES	0.0001	0.0000
2267002003	Construction	LPG Asphalt Pavers	MOVES	0.0000	0.0000
2267002015	Construction	LPG Rollers	MOVES	0.0000	0.0000
2267002021	Construction	LPG Paving Equipment	MOVES	0.0000	0.0000
2267002024	Construction	LPG Surfacing Equipment	MOVES	0.0000	0.0000
2267002030	Construction	LPG Trenchers	MOVES	0.0001	0.0000
2267002033	Construction	LPG Bore/Drill Rigs	MOVES	0.0000	0.0000
2267002039	Construction	LPG Concrete/Industrial Saws	MOVES	0.0001	0.0000
2267002045	Construction	LPG Cranes	MOVES	0.0000	0.0000
2267002054	Construction	LPG Crushing/Proc. Equipment	MOVES	0.0000	0.0000
2267002057	Construction	LPG Rough Terrain Forklifts	MOVES	0.0000	0.0000

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SCC	Segment Description	SCC Description	Emissions from	Sheboygan County 2030 Emissions	
				NOx	VOC
2267002060	Construction	LPG Rubber Tire Loaders	MOVES	0.0001	0.0000
2267002066	Construction	LPG Tractors/Loaders/Backhoes	MOVES	0.0000	0.0000
2267002072	Construction	LPG Skid Steer Loaders	MOVES	0.0001	0.0000
2267002081	Construction	LPG Other Construction Equipment	MOVES	0.0000	0.0000
2267003010	Industrial	LPG Aerial Lifts	MOVES	0.0020	0.0003
2267003020	Industrial	LPG Forklifts	MOVES	0.1566	0.0185
2267003030	Industrial	LPG Sweepers/Scrubbers	MOVES	0.0012	0.0001
2267003040	Industrial	LPG Other General Industrial Equipment	MOVES	0.0004	0.0000
2267003050	Industrial	LPG Other Material Handling Equipment	MOVES	0.0001	0.0000
2267003070	Industrial	LPG Terminal Tractors	MOVES	0.0007	0.0001
2267004066	Lawn/Garden	LPG Chippers/Stump Grinders (Commercial)	MOVES	0.0003	0.0000
2267005055	Agriculture	LPG Other Agricultural Equipment	MOVES	0.0000	0.0000
2267005060	Agriculture	LPG Irrigation Sets	MOVES	0.0000	0.0000
2267006005	Commercial	LPG Light Commercial Generator Sets	MOVES	0.0020	0.0003
2267006010	Commercial	LPG Light Commercial Pumps	MOVES	0.0003	0.0000
2267006015	Commercial	LPG Light Commercial Air Compressors	MOVES	0.0003	0.0000
2267006025	Commercial	LPG Light Commercial Welders	MOVES	0.0004	0.0000
2267006030	Commercial	LPG Light Commercial Pressure Washers	MOVES	0.0000	0.0000
2267006035	Commercial	LPG Hydro Power Units	MOVES	0.0000	0.0000
2267008005	Airport	LPG Airport Support Equipment	USEPA	0.0000	0.0000
2268002081	Construction	CNG Other Construction Equipment	MOVES	0.0000	0.0000
2268003020	Industrial	CNG Forklifts	MOVES	0.0112	0.0048
2268003030	Industrial	CNG Sweepers/Scrubbers	MOVES	0.0000	0.0000
2268003040	Industrial	CNG Other General Industrial Equipment	MOVES	0.0000	0.0000
2268003060	Industrial	CNG AC/Refrigeration	MOVES	0.0000	0.0000
2268003070	Industrial	CNG Terminal Tractors	MOVES	0.0001	0.0000
2268005055	Agriculture	CNG Other Agricultural Equipment	MOVES	0.0000	0.0000
2268005060	Agriculture	CNG Irrigation Sets	MOVES	0.0000	0.0000
2268006005	Commercial	CNG Light Commercial Generator Sets	MOVES	0.0006	0.0003
2268006010	Commercial	CNG Light Commercial Pumps	MOVES	0.0000	0.0000
2268006015	Commercial	CNG Light Commercial Air Compressors	MOVES	0.0000	0.0000
2268006020	Commercial	CNG Light Commercial Gas Compressors	MOVES	0.0008	0.0004
2268008005	Airport	CNG Airport Support Equipment	USEPA	0.0000	0.0000
2268010010	Oil Field	CNG Other Oil Field Equipment	MOVES	0.0000	0.0000
2270001060	Recreational	Diesel Specialty Vehicle Carts	MOVES	0.0019	0.0003
2270002003	Construction	Diesel Pavers	MOVES	0.0024	0.0005
2270002006	Construction	Diesel Tampers/Rammers (unused)	MOVES	0.0000	0.0000
2270002009	Construction	Diesel Plate Compactors	MOVES	0.0004	0.0000
2270002015	Construction	Diesel Rollers	MOVES	0.0066	0.0014
2270002018	Construction	Diesel Scrapers	MOVES	0.0033	0.0015
2270002021	Construction	Diesel Paving Equipment	MOVES	0.0005	0.0001
2270002024	Construction	Diesel Surfacing Equipment	MOVES	0.0004	0.0001
2270002027	Construction	Diesel Signal Boards	MOVES	0.0033	0.0003
2270002030	Construction	Diesel Trenchers	MOVES	0.0069	0.0006
2270002033	Construction	Diesel Bore/Drill Rigs	MOVES	0.0054	0.0007
2270002036	Construction	Diesel Excavators	MOVES	0.0152	0.0055
2270002039	Construction	Diesel Concrete/Industrial Saws	MOVES	0.0005	0.0000
2270002042	Construction	Diesel Cement & Mortar Mixers	MOVES	0.0003	0.0000
2270002045	Construction	Diesel Cranes	MOVES	0.0034	0.0013
2270002048	Construction	Diesel Graders	MOVES	0.0026	0.0014
2270002051	Construction	Diesel Off-highway Trucks	MOVES	0.0472	0.0047
2270002054	Construction	Diesel Crushing/Proc. Equipment	MOVES	0.0013	0.0002
2270002057	Construction	Diesel Rough Terrain Forklifts	MOVES	0.0065	0.0017
2270002060	Construction	Diesel Rubber Tire Loaders	MOVES	0.0245	0.0061
2270002066	Construction	Diesel Tractors/Loaders/Backhoes	MOVES	0.0217	0.0045
2270002069	Construction	Diesel Crawler Tractors	MOVES	0.0205	0.0055
2270002072	Construction	Diesel Skid Steer Loaders	MOVES	0.0342	0.0043

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SCC	Segment Description	SCC Description	Emissions from	Sheboygan County 2030 Emissions	
				NOx	VOC
2270002075	Construction	Diesel Off-Highway Tractors	MOVES	0.0050	0.0006
2270002078	Construction	Diesel Dumpers/Tenders	MOVES	0.0001	0.0000
2270002081	Construction	Diesel Other Construction Equipment	MOVES	0.0026	0.0006
2270003010	Industrial	Diesel Aerial Lifts	MOVES	0.0081	0.0010
2270003020	Industrial	Diesel Forklifts	MOVES	0.0445	0.0068
2270003030	Industrial	Diesel Sweepers/Scrubbers	MOVES	0.0134	0.0032
2270003040	Industrial	Diesel Other General Industrial Equipment	MOVES	0.0111	0.0033
2270003050	Industrial	Diesel Other Material Handling Equipment	MOVES	0.0012	0.0002
2270003060	Industrial	Diesel AC/Refrigeration	MOVES	0.0490	0.0027
2270003070	Industrial	Diesel Terminal Tractors	MOVES	0.0113	0.0046
2270004031	Lawn/Garden	Diesel Leafblowers/Vacuums (Commercial)	MOVES	0.0000	0.0000
2270004036	Lawn/Garden	Diesel Snowblowers (Commercial)	MOVES	0.0000	0.0000
2270004046	Lawn/Garden	Diesel Front Mowers (Commercial)	MOVES	0.0127	0.0011
2270004056	Lawn/Garden	Diesel Lawn & Garden Tractors (Commercial)	MOVES	0.0031	0.0003
2270004066	Lawn/Garden	Diesel Chippers/Stump Grinders (Commercial)	MOVES	0.0068	0.0010
2270004071	Lawn/Garden	Diesel Commercial Turf Equipment (Comm.)	MOVES	0.0010	0.0001
2270004076	Lawn/Garden	Diesel Other Lawn & Garden Equipment (Comm)	MOVES	0.0000	0.0000
2270005010	Agriculture	Diesel 2-Wheel Tractors	MOVES	0.0000	0.0000
2270005015	Agriculture	Diesel Agricultural Tractors	MOVES	0.3057	0.0482
2270005020	Agriculture	Diesel Combines	MOVES	0.0328	0.0051
2270005025	Agriculture	Diesel Balers	MOVES	0.0003	0.0000
2270005030	Agriculture	Diesel Agricultural Mowers	MOVES	0.0000	0.0000
2270005035	Agriculture	Diesel Sprayers	MOVES	0.0028	0.0004
2270005040	Agriculture	Diesel Tillers > 6 HP	MOVES	0.0000	0.0000
2270005045	Agriculture	Diesel Swathers	MOVES	0.0031	0.0004
2270005055	Agriculture	Diesel Other Agricultural Equipment	MOVES	0.0060	0.0010
2270005060	Agriculture	Diesel Irrigation Sets	MOVES	0.0028	0.0006
2270006005	Commercial	Diesel Light Commercial Generator Sets	MOVES	0.0163	0.0017
2270006010	Commercial	Diesel Light Commercial Pumps	MOVES	0.0036	0.0004
2270006015	Commercial	Diesel Light Commercial Air Compressors	MOVES	0.0057	0.0007
2270006025	Commercial	Diesel Light Commercial Welders	MOVES	0.0063	0.0007
2270006030	Commercial	Diesel Light Commercial Pressure Washer	MOVES	0.0005	0.0001
2270006035	Commercial	Diesel Hydro Power Units	MOVES	0.0003	0.0000
2270007015	Logging	Diesel Logging Equip Fell/Bunch/Skidlers	MOVES	0.0001	0.0001
2270008005	Airport	Diesel Airport Support Equipment	USEPA	0.0000	0.0000
2270010010	Oil Field	Diesel Other Oil Field Equipment	MOVES	0.0000	0.0000
2275001000	Aircraft	Military Aircraft	USEPA	0.0001	0.0005
2275020000	Aircraft	Commercial Aviation	USEPA	0.0000	0.0000
2275050000	Aircraft	General Aviation	USEPA	0.0055	0.0121
2275060000	Aircraft	Air Taxi	USEPA	0.0022	0.0029
2275070000	Aircraft	Aircraft Auxiliary Power Units	USEPA	0.0000	0.0000
2280000000	Comm. Mar.	All Commercial Marine Vessels	LADCO	0.4687	0.0095
2282005010	Pleasure Craft	2-Stroke Outboards	MOVES	0.0472	0.1027
2282005015	Pleasure Craft	2-Stroke Personal Watercraft	MOVES	0.0225	0.0249
2282010005	Pleasure Craft	4-Stroke Inboards	MOVES	0.0609	0.0919
2282020005	Pleasure Craft	Diesel Inboards	MOVES	0.1672	0.0117
2282020010	Pleasure Craft	Diesel Outboards	MOVES	0.0001	0.0000
2285002006	Railroad	Diesel Locomotives	USEPA	0.0814	0.0034
2285002015	Railroad	Diesel Railway Maintenance	MOVES	0.0002	0.0000
2285004015	Railroad	4-Stroke Gasoline Railway Maintenance	MOVES	0.0000	0.0000
2285006015	Railroad	LPG Railway Maintenance	MOVES	0.0000	0.0000
<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>ALL (Total)</b>		<b>1.9382</b>	<b>1.8216</b>

## **APPENDIX 8**

### **Onroad Emissions and Activity Data for 2011, 2014, 2020 and 2030**

## Sheboygan County Redesignation Request

This appendix provides detailed listings of the estimated onroad daily emissions and activity data for Sheboygan County for 2011, 2014, 2020 and 2030. The sums of NO<sub>x</sub> and VOC emissions from the different onroad source types were used for the onroad sector NO<sub>x</sub> and VOC tons per summer day (tpsd) emission estimates in sections 4.2 (Nonattainment Year and Attainment Year Inventories) and 4.3 (Maintenance Year Inventories) of the Wisconsin Department of Natural Resources (WDNR) Sheboygan County redesignation request for the 2008 ozone standard.

Sheboygan County Redesignation Request

**Table A8.1. 2011 Onroad NO<sub>x</sub> and VOC Emissions: tons per summer weekday (tpswd)  
Sheboygan County**

Source Type	Fuel Type	Road Type	Sheboygan County – Year 2011			
			NO <sub>x</sub> Emissions (tpswd)	VOC Emissions (tpswd)		
			Total	Exhaust	Evaporative	Total
Motorcycle	Gasoline	Off-Network	0.0001	0.0005	0.0368	0.0373
Motorcycle	Gasoline	Rural Restricted	0.0029	0.0028	0.0012	0.0040
Motorcycle	Gasoline	Rural Unrestricted	0.0067	0.0085	0.0049	0.0134
Motorcycle	Gasoline	Urban Restricted	0.0026	0.0027	0.0012	0.0039
Motorcycle	Gasoline	Urban Unrestricted	0.0021	0.0031	0.0019	0.0050
Passenger Car	Gasoline	Off-Network	0.2951	0.3215	0.4009	0.7224
Passenger Car	Gasoline	Rural Restricted	0.1715	0.0337	0.0118	0.0455
Passenger Car	Gasoline	Rural Unrestricted	0.3027	0.0703	0.0361	0.1063
Passenger Car	Gasoline	Urban Restricted	0.1778	0.0368	0.0145	0.0513
Passenger Car	Gasoline	Urban Unrestricted	0.1391	0.0346	0.0186	0.0533
Passenger Car	Diesel	Off-Network	0.0012	0.0026	0.0000	0.0026
Passenger Car	Diesel	Rural Restricted	0.0007	0.0003	0.0000	0.0003
Passenger Car	Diesel	Rural Unrestricted	0.0013	0.0008	0.0000	0.0008
Passenger Car	Diesel	Urban Restricted	0.0007	0.0004	0.0000	0.0004
Passenger Car	Diesel	Urban Unrestricted	0.0006	0.0004	0.0000	0.0004
Passenger Car	Ethanol (E-85)	Off-Network	0.0000	0.0000	0.0000	0.0000
Passenger Car	Ethanol (E-85)	Rural Restricted	0.0000	0.0000	0.0000	0.0000
Passenger Car	Ethanol (E-85)	Rural Unrestricted	0.0000	0.0000	0.0000	0.0000
Passenger Car	Ethanol (E-85)	Urban Restricted	0.0000	0.0000	0.0000	0.0000
Passenger Car	Ethanol (E-85)	Urban Unrestricted	0.0000	0.0000	0.0000	0.0000
Passenger Truck	Gasoline	Off-Network	0.3061	0.3592	0.1743	0.5336
Passenger Truck	Gasoline	Rural Restricted	0.2117	0.0388	0.0055	0.0443
Passenger Truck	Gasoline	Rural Unrestricted	0.3997	0.0882	0.0193	0.1075
Passenger Truck	Gasoline	Urban Restricted	0.1939	0.0372	0.0061	0.0433
Passenger Truck	Gasoline	Urban Unrestricted	0.1467	0.0351	0.0081	0.0431
Passenger Truck	Diesel	Off-Network	0.0044	0.0033	0.0000	0.0033
Passenger Truck	Diesel	Rural Restricted	0.0088	0.0016	0.0000	0.0016
Passenger Truck	Diesel	Rural Unrestricted	0.0215	0.0045	0.0000	0.0045
Passenger Truck	Diesel	Urban Restricted	0.0086	0.0017	0.0000	0.0017
Passenger Truck	Diesel	Urban Unrestricted	0.0083	0.0018	0.0000	0.0018
Passenger Truck	Ethanol (E-85)	Off-Network	0.0000	0.0000	0.0000	0.0001
Passenger Truck	Ethanol (E-85)	Rural Restricted	0.0000	0.0000	0.0000	0.0000
Passenger Truck	Ethanol (E-85)	Rural Unrestricted	0.0000	0.0000	0.0000	0.0000
Passenger Truck	Ethanol (E-85)	Urban Restricted	0.0000	0.0000	0.0000	0.0000
Passenger Truck	Ethanol (E-85)	Urban Unrestricted	0.0000	0.0000	0.0000	0.0000
Light Commercial Truck	Gasoline	Off-Network	0.1064	0.1261	0.0671	0.1932
Light Commercial Truck	Gasoline	Rural Restricted	0.0681	0.0143	0.0024	0.0168
Light Commercial Truck	Gasoline	Rural Unrestricted	0.1354	0.0371	0.0084	0.0455
Light Commercial Truck	Gasoline	Urban Restricted	0.0627	0.0142	0.0027	0.0169
Light Commercial Truck	Gasoline	Urban Unrestricted	0.0494	0.0150	0.0035	0.0185
Light Commercial Truck	Diesel	Off-Network	0.0040	0.0034	0.0000	0.0034
Light Commercial Truck	Diesel	Rural Restricted	0.0078	0.0016	0.0000	0.0016
Light Commercial Truck	Diesel	Rural Unrestricted	0.0193	0.0046	0.0000	0.0046
Light Commercial Truck	Diesel	Urban Restricted	0.0075	0.0017	0.0000	0.0017
Light Commercial Truck	Diesel	Urban Unrestricted	0.0074	0.0018	0.0000	0.0018
Light Commercial Truck	Ethanol (E-85)	Off-Network	0.0000	0.0000	0.0000	0.0000
Light Commercial Truck	Ethanol (E-85)	Rural Restricted	0.0000	0.0000	0.0000	0.0000
Light Commercial Truck	Ethanol (E-85)	Rural Unrestricted	0.0000	0.0000	0.0000	0.0000
Light Commercial Truck	Ethanol (E-85)	Urban Restricted	0.0000	0.0000	0.0000	0.0000

# Sheboygan County Redesignation Request

Source Type	Fuel Type	Road Type	Sheboygan County – Year 2011			
			NO <sub>x</sub> Emissions (tpswd)	VOC Emissions (tpswd)		
				Exhaust	Evaporative	Total
Light Commercial Truck	Ethanol (E-85)	Urban Unrestricted	0.0000	0.0000	0.0000	0.0000
Intercity Bus	Diesel	Off-Network	0.0000	0.0000	0.0000	0.0000
Intercity Bus	Diesel	Rural Restricted	0.0034	0.0002	0.0000	0.0002
Intercity Bus	Diesel	Rural Unrestricted	0.0058	0.0004	0.0000	0.0004
Intercity Bus	Diesel	Urban Restricted	0.0041	0.0003	0.0000	0.0003
Intercity Bus	Diesel	Urban Unrestricted	0.0030	0.0002	0.0000	0.0002
Transit Bus	Gasoline	Off-Network	0.0000	0.0000	0.0000	0.0000
Transit Bus	Gasoline	Rural Restricted	0.0000	0.0000	0.0000	0.0000
Transit Bus	Gasoline	Rural Unrestricted	0.0000	0.0000	0.0000	0.0000
Transit Bus	Gasoline	Urban Restricted	0.0000	0.0000	0.0000	0.0000
Transit Bus	Gasoline	Urban Unrestricted	0.0000	0.0000	0.0000	0.0000
Transit Bus	Diesel	Off-Network	0.0000	0.0000	0.0000	0.0000
Transit Bus	Diesel	Rural Restricted	0.0061	0.0004	0.0000	0.0004
Transit Bus	Diesel	Rural Unrestricted	0.0080	0.0006	0.0000	0.0006
Transit Bus	Diesel	Urban Restricted	0.0074	0.0005	0.0000	0.0005
Transit Bus	Diesel	Urban Unrestricted	0.0041	0.0003	0.0000	0.0003
Transit Bus	CNG	Off-Network	0.0000	0.0000	0.0000	0.0000
Transit Bus	CNG	Rural Restricted	0.0005	0.0001	0.0000	0.0001
Transit Bus	CNG	Rural Unrestricted	0.0006	0.0001	0.0000	0.0001
Transit Bus	CNG	Urban Restricted	0.0006	0.0001	0.0000	0.0001
Transit Bus	CNG	Urban Unrestricted	0.0003	0.0001	0.0000	0.0001
School Bus	Gasoline	Off-Network	0.0001	0.0001	0.0000	0.0001
School Bus	Gasoline	Rural Restricted	0.0001	0.0000	0.0000	0.0000
School Bus	Gasoline	Rural Unrestricted	0.0001	0.0001	0.0000	0.0001
School Bus	Gasoline	Urban Restricted	0.0001	0.0000	0.0000	0.0000
School Bus	Gasoline	Urban Unrestricted	0.0001	0.0000	0.0000	0.0000
School Bus	Diesel	Off-Network	0.0000	0.0000	0.0000	0.0000
School Bus	Diesel	Rural Restricted	0.0081	0.0009	0.0000	0.0009
School Bus	Diesel	Rural Unrestricted	0.0109	0.0018	0.0000	0.0018
School Bus	Diesel	Urban Restricted	0.0098	0.0013	0.0000	0.0013
School Bus	Diesel	Urban Unrestricted	0.0057	0.0010	0.0000	0.0010
Refuse Truck	Gasoline	Off-Network	0.0001	0.0001	0.0000	0.0001
Refuse Truck	Gasoline	Rural Restricted	0.0003	0.0001	0.0000	0.0001
Refuse Truck	Gasoline	Rural Unrestricted	0.0003	0.0001	0.0000	0.0001
Refuse Truck	Gasoline	Urban Restricted	0.0002	0.0001	0.0000	0.0001
Refuse Truck	Gasoline	Urban Unrestricted	0.0001	0.0000	0.0000	0.0000
Refuse Truck	Diesel	Off-Network	0.0000	0.0000	0.0000	0.0000
Refuse Truck	Diesel	Rural Restricted	0.0132	0.0006	0.0000	0.0006
Refuse Truck	Diesel	Rural Unrestricted	0.0129	0.0008	0.0000	0.0008
Refuse Truck	Diesel	Urban Restricted	0.0107	0.0006	0.0000	0.0006
Refuse Truck	Diesel	Urban Unrestricted	0.0046	0.0003	0.0000	0.0003
Single Unit Short-haul Truck	Gasoline	Off-Network	0.0142	0.0138	0.0110	0.0248
Single Unit Short-haul Truck	Gasoline	Rural Restricted	0.0157	0.0027	0.0003	0.0030
Single Unit Short-haul Truck	Gasoline	Rural Unrestricted	0.0235	0.0059	0.0006	0.0065
Single Unit Short-haul Truck	Gasoline	Urban Restricted	0.0191	0.0037	0.0003	0.0040
Single Unit Short-haul Truck	Gasoline	Urban Unrestricted	0.0102	0.0030	0.0003	0.0033
Single Unit Short-haul Truck	Diesel	Off-Network	0.0038	0.0003	0.0000	0.0003
Single Unit Short-haul Truck	Diesel	Rural Restricted	0.0618	0.0077	0.0000	0.0077
Single Unit Short-haul Truck	Diesel	Rural Unrestricted	0.1041	0.0170	0.0000	0.0170
Single Unit Short-haul Truck	Diesel	Urban Restricted	0.0734	0.0100	0.0000	0.0100
Single Unit Short-haul Truck	Diesel	Urban Unrestricted	0.0489	0.0080	0.0000	0.0080
Single Unit Long-haul Truck	Gasoline	Off-Network	0.0004	0.0004	0.0003	0.0008
Single Unit Long-haul Truck	Gasoline	Rural Restricted	0.0006	0.0001	0.0000	0.0001
Single Unit Long-haul Truck	Gasoline	Rural Unrestricted	0.0010	0.0003	0.0000	0.0003

Sheboygan County Redesignation Request

Source Type	Fuel Type	Road Type	Sheboygan County – Year 2011			
			NO <sub>x</sub> Emissions (tpswd)	VOC Emissions (tpswd)		
			Total	Exhaust	Evaporative	Total
Single Unit Long-haul Truck	Gasoline	Urban Restricted	0.0008	0.0002	0.0000	0.0002
Single Unit Long-haul Truck	Gasoline	Urban Unrestricted	0.0004	0.0001	0.0000	0.0002
Single Unit Long-haul Truck	Diesel	Off-Network	0.0001	0.0000	0.0000	0.0000
Single Unit Long-haul Truck	Diesel	Rural Restricted	0.0036	0.0005	0.0000	0.0005
Single Unit Long-haul Truck	Diesel	Rural Unrestricted	0.0062	0.0012	0.0000	0.0012
Single Unit Long-haul Truck	Diesel	Urban Restricted	0.0044	0.0007	0.0000	0.0007
Single Unit Long-haul Truck	Diesel	Urban Unrestricted	0.0029	0.0005	0.0000	0.0005
Motor Home	Gasoline	Off-Network	0.0008	0.0011	0.0031	0.0042
Motor Home	Gasoline	Rural Restricted	0.0013	0.0003	0.0000	0.0003
Motor Home	Gasoline	Rural Unrestricted	0.0024	0.0007	0.0001	0.0008
Motor Home	Gasoline	Urban Restricted	0.0020	0.0005	0.0001	0.0005
Motor Home	Gasoline	Urban Unrestricted	0.0012	0.0004	0.0001	0.0005
Motor Home	Diesel	Off-Network	0.0001	0.0000	0.0000	0.0000
Motor Home	Diesel	Rural Restricted	0.0011	0.0001	0.0000	0.0001
Motor Home	Diesel	Rural Unrestricted	0.0021	0.0004	0.0000	0.0004
Motor Home	Diesel	Urban Restricted	0.0015	0.0002	0.0000	0.0002
Motor Home	Diesel	Urban Unrestricted	0.0011	0.0002	0.0000	0.0002
Combination Short-haul Truck	Gasoline	Off-Network	0.0000	0.0000	0.0000	0.0000
Combination Short-haul Truck	Gasoline	Rural Restricted	0.0000	0.0000	0.0000	0.0000
Combination Short-haul Truck	Gasoline	Rural Unrestricted	0.0000	0.0000	0.0000	0.0000
Combination Short-haul Truck	Gasoline	Urban Restricted	0.0000	0.0000	0.0000	0.0000
Combination Short-haul Truck	Gasoline	Urban Unrestricted	0.0000	0.0000	0.0000	0.0000
Combination Short-haul Truck	Diesel	Off-Network	0.0000	0.0001	0.0000	0.0001
Combination Short-haul Truck	Diesel	Rural Restricted	0.1265	0.0057	0.0000	0.0057
Combination Short-haul Truck	Diesel	Rural Unrestricted	0.1247	0.0077	0.0000	0.0077
Combination Short-haul Truck	Diesel	Urban Restricted	0.1026	0.0054	0.0000	0.0054
Combination Short-haul Truck	Diesel	Urban Unrestricted	0.0439	0.0028	0.0000	0.0028
Combination Long-haul Truck	Diesel	Off-Network	0.4255	0.1100	0.0000	0.1100
Combination Long-haul Truck	Diesel	Rural Restricted	0.3663	0.0169	0.0000	0.0169
Combination Long-haul Truck	Diesel	Rural Unrestricted	0.3553	0.0215	0.0000	0.0215
Combination Long-haul Truck	Diesel	Urban Restricted	0.2938	0.0152	0.0000	0.0152
Combination Long-haul Truck	Diesel	Urban Unrestricted	0.1217	0.0076	0.0000	0.0076
<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>5.3736</b>	<b>1.5943</b>	<b>0.8417</b>	<b>2.4360</b>
Motorcycle	ALL	ALL	0.0144	0.0177	0.0460	0.0637
Passenger Car	ALL	ALL	1.0909	0.5014	0.4819	0.9834
Passenger Truck	ALL	ALL	1.3098	0.5714	0.2132	0.7846
Light Commercial Truck	ALL	ALL	0.4679	0.2199	0.0841	0.3040
Intercity Bus	ALL	ALL	0.0164	0.0011	0.0000	0.0011
Transit Bus	ALL	ALL	0.0278	0.0021	0.0000	0.0021
School Bus	ALL	ALL	0.0350	0.0051	0.0001	0.0051
Refuse Truck	ALL	ALL	0.0424	0.0026	0.0001	0.0027
Single Unit Short-haul Truck	ALL	ALL	0.3747	0.0720	0.0125	0.0846
Single Unit Long-haul Truck	ALL	ALL	0.0204	0.0040	0.0004	0.0045
Motor Home	ALL	ALL	0.0135	0.0039	0.0034	0.0073
Combination Short-haul Truck	ALL	ALL	0.3978	0.0217	0.0000	0.0217
Combination Long-haul Truck	ALL	ALL	1.5627	0.1712	0.0000	0.1712
<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>5.3736</b>	<b>1.5943</b>	<b>0.8417</b>	<b>2.4360</b>
ALL	Gasoline	ALL	2.8758	1.3138	0.8417	2.1554
ALL	Diesel	ALL	2.4956	0.2801	0.0000	0.2801
ALL	CNG	ALL	0.0020	0.0003	0.0000	0.0003



# Sheboygan County Redesignation Request

Source Type	Fuel Type	Road Type	Sheboygan County – Year 2011			
			NO <sub>x</sub> Emissions (tpswd)	VOC Emissions (tpswd)		
			Total	Exhaust	Evaporative	Total
ALL	Ethanol (E-85)	ALL	0.0001	0.0001	0.0000	0.0001
<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>5.3736</b>	<b>1.5943</b>	<b>0.8417</b>	<b>2.4360</b>
ALL	ALL	Off-Network	1.1625	0.9427	0.6937	1.6364
ALL	ALL	Rural Restricted	1.0802	0.1296	0.0212	0.1508
ALL	ALL	Rural Unrestricted	1.5446	0.2723	0.0695	0.3418
ALL	ALL	Urban Restricted	0.9844	0.1332	0.0249	0.1581
ALL	ALL	Urban Unrestricted	0.6019	0.1165	0.0325	0.1490
<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>5.3736</b>	<b>1.5943</b>	<b>0.8417</b>	<b>2.4360</b>

Sheboygan County Redesignation Request

**Table A8.2. 2014 Onroad NO<sub>x</sub> and VOC Emissions: tons per summer weekday (tpswd)  
Sheboygan County**

Source Type	Fuel Type	Road Type	Sheboygan County – Year 2014			
			NO <sub>x</sub> Emissions (tpswd)	VOC Emissions (tpswd)		
			Total	Exhaust	Evaporative	Total
Motorcycle	Gasoline	Off-Network	0.0001	0.0006	0.0354	0.0360
Motorcycle	Gasoline	Rural Restricted	0.0027	0.0024	0.0012	0.0036
Motorcycle	Gasoline	Rural Unrestricted	0.0061	0.0070	0.0047	0.0117
Motorcycle	Gasoline	Urban Restricted	0.0027	0.0025	0.0013	0.0038
Motorcycle	Gasoline	Urban Unrestricted	0.0020	0.0026	0.0018	0.0045
Passenger Car	Gasoline	Off-Network	0.2206	0.2307	0.2982	0.5289
Passenger Car	Gasoline	Rural Restricted	0.1075	0.0202	0.0073	0.0275
Passenger Car	Gasoline	Rural Unrestricted	0.1841	0.0398	0.0214	0.0612
Passenger Car	Gasoline	Urban Restricted	0.1231	0.0241	0.0096	0.0337
Passenger Car	Gasoline	Urban Unrestricted	0.0866	0.0199	0.0113	0.0313
Passenger Car	Diesel	Off-Network	0.0011	0.0014	0.0000	0.0014
Passenger Car	Diesel	Rural Restricted	0.0006	0.0002	0.0000	0.0002
Passenger Car	Diesel	Rural Unrestricted	0.0011	0.0005	0.0000	0.0005
Passenger Car	Diesel	Urban Restricted	0.0007	0.0003	0.0000	0.0003
Passenger Car	Diesel	Urban Unrestricted	0.0005	0.0002	0.0000	0.0002
Passenger Car	Ethanol (E-85)	Off-Network	0.0001	0.0001	0.0001	0.0002
Passenger Car	Ethanol (E-85)	Rural Restricted	0.0000	0.0000	0.0000	0.0000
Passenger Car	Ethanol (E-85)	Rural Unrestricted	0.0000	0.0000	0.0000	0.0000
Passenger Car	Ethanol (E-85)	Urban Restricted	0.0000	0.0000	0.0000	0.0000
Passenger Car	Ethanol (E-85)	Urban Unrestricted	0.0000	0.0000	0.0000	0.0000
Passenger Truck	Gasoline	Off-Network	0.2064	0.2298	0.1296	0.3594
Passenger Truck	Gasoline	Rural Restricted	0.1345	0.0231	0.0035	0.0266
Passenger Truck	Gasoline	Rural Unrestricted	0.2416	0.0487	0.0118	0.0605
Passenger Truck	Gasoline	Urban Restricted	0.1361	0.0242	0.0042	0.0283
Passenger Truck	Gasoline	Urban Unrestricted	0.0910	0.0198	0.0051	0.0248
Passenger Truck	Diesel	Off-Network	0.0039	0.0021	0.0000	0.0021
Passenger Truck	Diesel	Rural Restricted	0.0063	0.0010	0.0000	0.0010
Passenger Truck	Diesel	Rural Unrestricted	0.0153	0.0028	0.0000	0.0028
Passenger Truck	Diesel	Urban Restricted	0.0068	0.0012	0.0000	0.0012
Passenger Truck	Diesel	Urban Unrestricted	0.0061	0.0011	0.0000	0.0011
Passenger Truck	Ethanol (E-85)	Off-Network	0.0002	0.0002	0.0002	0.0004
Passenger Truck	Ethanol (E-85)	Rural Restricted	0.0001	0.0000	0.0000	0.0000
Passenger Truck	Ethanol (E-85)	Rural Unrestricted	0.0001	0.0000	0.0000	0.0000
Passenger Truck	Ethanol (E-85)	Urban Restricted	0.0001	0.0000	0.0000	0.0000
Passenger Truck	Ethanol (E-85)	Urban Unrestricted	0.0001	0.0000	0.0000	0.0000
Light Commercial Truck	Gasoline	Off-Network	0.0864	0.1042	0.0534	0.1576
Light Commercial Truck	Gasoline	Rural Restricted	0.0496	0.0100	0.0016	0.0117
Light Commercial Truck	Gasoline	Rural Unrestricted	0.0958	0.0247	0.0056	0.0303
Light Commercial Truck	Gasoline	Urban Restricted	0.0505	0.0108	0.0020	0.0128
Light Commercial Truck	Gasoline	Urban Unrestricted	0.0359	0.0102	0.0024	0.0126
Light Commercial Truck	Diesel	Off-Network	0.0037	0.0028	0.0000	0.0028
Light Commercial Truck	Diesel	Rural Restricted	0.0060	0.0012	0.0000	0.0012
Light Commercial Truck	Diesel	Rural Unrestricted	0.0145	0.0032	0.0000	0.0032
Light Commercial Truck	Diesel	Urban Restricted	0.0064	0.0013	0.0000	0.0013
Light Commercial Truck	Diesel	Urban Unrestricted	0.0057	0.0013	0.0000	0.0013
Light Commercial Truck	Ethanol (E-85)	Off-Network	0.0000	0.0001	0.0000	0.0001
Light Commercial Truck	Ethanol (E-85)	Rural Restricted	0.0000	0.0000	0.0000	0.0000
Light Commercial Truck	Ethanol (E-85)	Rural Unrestricted	0.0000	0.0000	0.0000	0.0000
Light Commercial Truck	Ethanol (E-85)	Urban Restricted	0.0000	0.0000	0.0000	0.0000

# Sheboygan County Redesignation Request

Source Type	Fuel Type	Road Type	Sheboygan County – Year 2014			
			NO <sub>x</sub> Emissions (tpswd)	VOC Emissions (tpswd)		
				Exhaust	Evaporative	Total
Light Commercial Truck	Ethanol (E-85)	Urban Unrestricted	0.0000	0.0000	0.0000	0.0000
Intercity Bus	Diesel	Off-Network	0.0000	0.0000	0.0000	0.0000
Intercity Bus	Diesel	Rural Restricted	0.0027	0.0001	0.0000	0.0001
Intercity Bus	Diesel	Rural Unrestricted	0.0044	0.0003	0.0000	0.0003
Intercity Bus	Diesel	Urban Restricted	0.0037	0.0002	0.0000	0.0002
Intercity Bus	Diesel	Urban Unrestricted	0.0024	0.0002	0.0000	0.0002
Transit Bus	Gasoline	Off-Network	0.0000	0.0000	0.0000	0.0000
Transit Bus	Gasoline	Rural Restricted	0.0000	0.0000	0.0000	0.0000
Transit Bus	Gasoline	Rural Unrestricted	0.0000	0.0000	0.0000	0.0000
Transit Bus	Gasoline	Urban Restricted	0.0000	0.0000	0.0000	0.0000
Transit Bus	Gasoline	Urban Unrestricted	0.0000	0.0000	0.0000	0.0000
Transit Bus	Diesel	Off-Network	0.0000	0.0000	0.0000	0.0000
Transit Bus	Diesel	Rural Restricted	0.0044	0.0003	0.0000	0.0003
Transit Bus	Diesel	Rural Unrestricted	0.0058	0.0004	0.0000	0.0004
Transit Bus	Diesel	Urban Restricted	0.0061	0.0004	0.0000	0.0004
Transit Bus	Diesel	Urban Unrestricted	0.0030	0.0002	0.0000	0.0002
Transit Bus	CNG	Off-Network	0.0000	0.0000	0.0000	0.0000
Transit Bus	CNG	Rural Restricted	0.0004	0.0000	0.0000	0.0000
Transit Bus	CNG	Rural Unrestricted	0.0005	0.0001	0.0000	0.0001
Transit Bus	CNG	Urban Restricted	0.0006	0.0001	0.0000	0.0001
Transit Bus	CNG	Urban Unrestricted	0.0002	0.0001	0.0000	0.0001
School Bus	Gasoline	Off-Network	0.0000	0.0000	0.0000	0.0001
School Bus	Gasoline	Rural Restricted	0.0000	0.0000	0.0000	0.0000
School Bus	Gasoline	Rural Unrestricted	0.0000	0.0000	0.0000	0.0000
School Bus	Gasoline	Urban Restricted	0.0001	0.0000	0.0000	0.0000
School Bus	Gasoline	Urban Unrestricted	0.0000	0.0000	0.0000	0.0000
School Bus	Diesel	Off-Network	0.0000	0.0000	0.0000	0.0000
School Bus	Diesel	Rural Restricted	0.0052	0.0006	0.0000	0.0006
School Bus	Diesel	Rural Unrestricted	0.0069	0.0012	0.0000	0.0012
School Bus	Diesel	Urban Restricted	0.0072	0.0010	0.0000	0.0010
School Bus	Diesel	Urban Unrestricted	0.0037	0.0007	0.0000	0.0007
Refuse Truck	Gasoline	Off-Network	0.0001	0.0001	0.0000	0.0001
Refuse Truck	Gasoline	Rural Restricted	0.0002	0.0000	0.0000	0.0000
Refuse Truck	Gasoline	Rural Unrestricted	0.0002	0.0000	0.0000	0.0001
Refuse Truck	Gasoline	Urban Restricted	0.0002	0.0000	0.0000	0.0000
Refuse Truck	Gasoline	Urban Unrestricted	0.0001	0.0000	0.0000	0.0000
Refuse Truck	Diesel	Off-Network	0.0000	0.0000	0.0000	0.0000
Refuse Truck	Diesel	Rural Restricted	0.0088	0.0004	0.0000	0.0004
Refuse Truck	Diesel	Rural Unrestricted	0.0086	0.0005	0.0000	0.0005
Refuse Truck	Diesel	Urban Restricted	0.0081	0.0004	0.0000	0.0004
Refuse Truck	Diesel	Urban Unrestricted	0.0032	0.0002	0.0000	0.0002
Single Unit Short-haul Truck	Gasoline	Off-Network	0.0120	0.0115	0.0100	0.0215
Single Unit Short-haul Truck	Gasoline	Rural Restricted	0.0116	0.0019	0.0002	0.0021
Single Unit Short-haul Truck	Gasoline	Rural Unrestricted	0.0169	0.0041	0.0004	0.0046
Single Unit Short-haul Truck	Gasoline	Urban Restricted	0.0156	0.0028	0.0003	0.0031
Single Unit Short-haul Truck	Gasoline	Urban Unrestricted	0.0075	0.0022	0.0002	0.0024
Single Unit Short-haul Truck	Diesel	Off-Network	0.0041	0.0003	0.0000	0.0003
Single Unit Short-haul Truck	Diesel	Rural Restricted	0.0407	0.0048	0.0000	0.0048
Single Unit Short-haul Truck	Diesel	Rural Unrestricted	0.0675	0.0103	0.0000	0.0103
Single Unit Short-haul Truck	Diesel	Urban Restricted	0.0541	0.0069	0.0000	0.0069
Single Unit Short-haul Truck	Diesel	Urban Unrestricted	0.0325	0.0050	0.0000	0.0050
Single Unit Long-haul Truck	Gasoline	Off-Network	0.0003	0.0004	0.0003	0.0007
Single Unit Long-haul Truck	Gasoline	Rural Restricted	0.0004	0.0001	0.0000	0.0001
Single Unit Long-haul Truck	Gasoline	Rural Unrestricted	0.0005	0.0002	0.0000	0.0002

Sheboygan County Redesignation Request

Source Type	Fuel Type	Road Type	Sheboygan County – Year 2014			
			NO <sub>x</sub> Emissions (tpswd)	VOC Emissions (tpswd)		
			Total	Exhaust	Evaporative	Total
Single Unit Long-haul Truck	Gasoline	Urban Restricted	0.0005	0.0001	0.0000	0.0001
Single Unit Long-haul Truck	Gasoline	Urban Unrestricted	0.0002	0.0001	0.0000	0.0001
Single Unit Long-haul Truck	Diesel	Off-Network	0.0001	0.0000	0.0000	0.0000
Single Unit Long-haul Truck	Diesel	Rural Restricted	0.0025	0.0003	0.0000	0.0003
Single Unit Long-haul Truck	Diesel	Rural Unrestricted	0.0041	0.0007	0.0000	0.0007
Single Unit Long-haul Truck	Diesel	Urban Restricted	0.0033	0.0005	0.0000	0.0005
Single Unit Long-haul Truck	Diesel	Urban Unrestricted	0.0020	0.0003	0.0000	0.0003
Motor Home	Gasoline	Off-Network	0.0007	0.0009	0.0028	0.0037
Motor Home	Gasoline	Rural Restricted	0.0011	0.0002	0.0000	0.0003
Motor Home	Gasoline	Rural Unrestricted	0.0020	0.0006	0.0001	0.0007
Motor Home	Gasoline	Urban Restricted	0.0018	0.0004	0.0001	0.0005
Motor Home	Gasoline	Urban Unrestricted	0.0010	0.0004	0.0000	0.0004
Motor Home	Diesel	Off-Network	0.0001	0.0000	0.0000	0.0000
Motor Home	Diesel	Rural Restricted	0.0009	0.0001	0.0000	0.0001
Motor Home	Diesel	Rural Unrestricted	0.0017	0.0003	0.0000	0.0003
Motor Home	Diesel	Urban Restricted	0.0014	0.0002	0.0000	0.0002
Motor Home	Diesel	Urban Unrestricted	0.0009	0.0002	0.0000	0.0002
Combination Short-haul Truck	Gasoline	Off-Network	0.0000	0.0000	0.0000	0.0000
Combination Short-haul Truck	Gasoline	Rural Restricted	0.0000	0.0000	0.0000	0.0000
Combination Short-haul Truck	Gasoline	Rural Unrestricted	0.0000	0.0000	0.0000	0.0000
Combination Short-haul Truck	Gasoline	Urban Restricted	0.0000	0.0000	0.0000	0.0000
Combination Short-haul Truck	Gasoline	Urban Unrestricted	0.0000	0.0000	0.0000	0.0000
Combination Short-haul Truck	Diesel	Off-Network	0.0000	0.0001	0.0000	0.0001
Combination Short-haul Truck	Diesel	Rural Restricted	0.0793	0.0035	0.0000	0.0035
Combination Short-haul Truck	Diesel	Rural Unrestricted	0.0775	0.0046	0.0000	0.0046
Combination Short-haul Truck	Diesel	Urban Restricted	0.0730	0.0036	0.0000	0.0036
Combination Short-haul Truck	Diesel	Urban Unrestricted	0.0282	0.0017	0.0000	0.0017
Combination Long-haul Truck	Diesel	Off-Network	0.3700	0.0866	0.0000	0.0866
Combination Long-haul Truck	Diesel	Rural Restricted	0.2666	0.0119	0.0000	0.0119
Combination Long-haul Truck	Diesel	Rural Unrestricted	0.2548	0.0148	0.0000	0.0148
Combination Long-haul Truck	Diesel	Urban Restricted	0.2415	0.0119	0.0000	0.0119
Combination Long-haul Truck	Diesel	Urban Unrestricted	0.0902	0.0054	0.0000	0.0054
<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>3.7991</b>	<b>1.0840</b>	<b>0.6263</b>	<b>1.7103</b>
Motorcycle	ALL	ALL	0.0136	0.0151	0.0444	0.0595
Passenger Car	ALL	ALL	0.7262	0.3374	0.3479	0.6854
Passenger Truck	ALL	ALL	0.8486	0.3540	0.1543	0.5083
Light Commercial Truck	ALL	ALL	0.3545	0.1698	0.0650	0.2349
Intercity Bus	ALL	ALL	0.0132	0.0008	0.0000	0.0008
Transit Bus	ALL	ALL	0.0211	0.0016	0.0000	0.0016
School Bus	ALL	ALL	0.0233	0.0035	0.0000	0.0036
Refuse Truck	ALL	ALL	0.0293	0.0018	0.0001	0.0018
Single Unit Short-haul Truck	ALL	ALL	0.2626	0.0498	0.0111	0.0609
Single Unit Long-haul Truck	ALL	ALL	0.0140	0.0026	0.0004	0.0030
Motor Home	ALL	ALL	0.0117	0.0033	0.0030	0.0063
Combination Short-haul Truck	ALL	ALL	0.2580	0.0135	0.0000	0.0135
Combination Long-haul Truck	ALL	ALL	1.2231	0.1306	0.0000	0.1306
<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>3.7991</b>	<b>1.0840</b>	<b>0.6263</b>	<b>1.7103</b>
ALL	Gasoline	ALL	1.9366	0.8815	0.6259	1.5075
ALL	Diesel	ALL	1.8600	0.2018	0.0000	0.2018
ALL	CNG	ALL	0.0017	0.0003	0.0000	0.0003

Sheboygan County Redesignation Request

Source Type	Fuel Type	Road Type	Sheboygan County – Year 2014			
			NO <sub>x</sub> Emissions (tpswd)	VOC Emissions (tpswd)		
			Total	Exhaust	Evaporative	Total
ALL	Ethanol (E-85)	ALL	0.0008	0.0005	0.0003	0.0008
<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>3.7991</b>	<b>1.0840</b>	<b>0.6263</b>	<b>1.7103</b>
ALL	ALL	Off-Network	0.9101	0.6719	0.5301	1.2019
ALL	ALL	Rural Restricted	0.7322	0.0826	0.0138	0.0964
ALL	ALL	Rural Unrestricted	1.0100	0.1648	0.0441	0.2089
ALL	ALL	Urban Restricted	0.7438	0.0929	0.0174	0.1103
ALL	ALL	Urban Unrestricted	0.4031	0.0718	0.0209	0.0927
<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>3.7991</b>	<b>1.0840</b>	<b>0.6263</b>	<b>1.7103</b>

Sheboygan County Redesignation Request

**Table A8.3. 2020 Onroad NO<sub>x</sub> and VOC Emissions: tons per summer weekday (tpswd)  
Sheboygan County**

Source Type	Fuel Type	Road Type	Sheboygan County – Year 2020			
			NO <sub>x</sub> Emissions (tpswd)	VOC Emissions (tpswd)		
			Total	Exhaust	Evaporative	Total
Motorcycle	Gasoline	Off-Network	0.0002	0.0008	0.0382	0.0389
Motorcycle	Gasoline	Rural Restricted	0.0029	0.0023	0.0012	0.0035
Motorcycle	Gasoline	Rural Unrestricted	0.0065	0.0066	0.0050	0.0117
Motorcycle	Gasoline	Urban Restricted	0.0032	0.0026	0.0015	0.0042
Motorcycle	Gasoline	Urban Unrestricted	0.0022	0.0025	0.0020	0.0046
Passenger Car	Gasoline	Off-Network	0.1268	0.1477	0.2203	0.3680
Passenger Car	Gasoline	Rural Restricted	0.0424	0.0083	0.0047	0.0130
Passenger Car	Gasoline	Rural Unrestricted	0.0615	0.0128	0.0140	0.0268
Passenger Car	Gasoline	Urban Restricted	0.0512	0.0101	0.0068	0.0169
Passenger Car	Gasoline	Urban Unrestricted	0.0295	0.0064	0.0075	0.0140
Passenger Car	Diesel	Off-Network	0.0007	0.0008	0.0000	0.0008
Passenger Car	Diesel	Rural Restricted	0.0004	0.0001	0.0000	0.0001
Passenger Car	Diesel	Rural Unrestricted	0.0004	0.0001	0.0000	0.0001
Passenger Car	Diesel	Urban Restricted	0.0004	0.0001	0.0000	0.0001
Passenger Car	Diesel	Urban Unrestricted	0.0002	0.0000	0.0000	0.0000
Passenger Car	Ethanol (E-85)	Off-Network	0.0005	0.0007	0.0008	0.0015
Passenger Car	Ethanol (E-85)	Rural Restricted	0.0001	0.0000	0.0000	0.0000
Passenger Car	Ethanol (E-85)	Rural Unrestricted	0.0002	0.0000	0.0001	0.0001
Passenger Car	Ethanol (E-85)	Urban Restricted	0.0001	0.0000	0.0000	0.0001
Passenger Car	Ethanol (E-85)	Urban Unrestricted	0.0001	0.0000	0.0000	0.0000
Passenger Truck	Gasoline	Off-Network	0.1194	0.1310	0.1108	0.2419
Passenger Truck	Gasoline	Rural Restricted	0.0551	0.0105	0.0028	0.0133
Passenger Truck	Gasoline	Rural Unrestricted	0.0813	0.0169	0.0097	0.0266
Passenger Truck	Gasoline	Urban Restricted	0.0585	0.0113	0.0037	0.0150
Passenger Truck	Gasoline	Urban Unrestricted	0.0314	0.0069	0.0042	0.0111
Passenger Truck	Diesel	Off-Network	0.0039	0.0012	0.0000	0.0012
Passenger Truck	Diesel	Rural Restricted	0.0040	0.0005	0.0000	0.0005
Passenger Truck	Diesel	Rural Unrestricted	0.0091	0.0012	0.0000	0.0012
Passenger Truck	Diesel	Urban Restricted	0.0046	0.0006	0.0000	0.0006
Passenger Truck	Diesel	Urban Unrestricted	0.0037	0.0005	0.0000	0.0005
Passenger Truck	Ethanol (E-85)	Off-Network	0.0012	0.0016	0.0015	0.0031
Passenger Truck	Ethanol (E-85)	Rural Restricted	0.0006	0.0001	0.0000	0.0002
Passenger Truck	Ethanol (E-85)	Rural Unrestricted	0.0008	0.0001	0.0002	0.0003
Passenger Truck	Ethanol (E-85)	Urban Restricted	0.0006	0.0001	0.0001	0.0002
Passenger Truck	Ethanol (E-85)	Urban Unrestricted	0.0003	0.0001	0.0001	0.0001
Light Commercial Truck	Gasoline	Off-Network	0.0482	0.0545	0.0383	0.0928
Light Commercial Truck	Gasoline	Rural Restricted	0.0201	0.0041	0.0010	0.0052
Light Commercial Truck	Gasoline	Rural Unrestricted	0.0336	0.0082	0.0035	0.0117
Light Commercial Truck	Gasoline	Urban Restricted	0.0218	0.0046	0.0014	0.0059
Light Commercial Truck	Gasoline	Urban Unrestricted	0.0129	0.0034	0.0015	0.0050
Light Commercial Truck	Diesel	Off-Network	0.0030	0.0015	0.0000	0.0015
Light Commercial Truck	Diesel	Rural Restricted	0.0031	0.0005	0.0000	0.0005
Light Commercial Truck	Diesel	Rural Unrestricted	0.0071	0.0012	0.0000	0.0012
Light Commercial Truck	Diesel	Urban Restricted	0.0036	0.0006	0.0000	0.0006
Light Commercial Truck	Diesel	Urban Unrestricted	0.0029	0.0005	0.0000	0.0005
Light Commercial Truck	Ethanol (E-85)	Off-Network	0.0003	0.0004	0.0003	0.0007
Light Commercial Truck	Ethanol (E-85)	Rural Restricted	0.0001	0.0000	0.0000	0.0000
Light Commercial Truck	Ethanol (E-85)	Rural Unrestricted	0.0002	0.0000	0.0000	0.0001
Light Commercial Truck	Ethanol (E-85)	Urban Restricted	0.0001	0.0000	0.0000	0.0000

# Sheboygan County Redesignation Request

Source Type	Fuel Type	Road Type	Sheboygan County – Year 2020			
			NO <sub>x</sub> Emissions (tpswd)	VOC Emissions (tpswd)		
				Exhaust	Evaporative	Total
Light Commercial Truck	Ethanol (E-85)	Urban Unrestricted	0.0001	0.0000	0.0000	0.0000
Intercity Bus	Diesel	Off-Network	0.0000	0.0000	0.0000	0.0000
Intercity Bus	Diesel	Rural Restricted	0.0020	0.0001	0.0000	0.0001
Intercity Bus	Diesel	Rural Unrestricted	0.0031	0.0002	0.0000	0.0002
Intercity Bus	Diesel	Urban Restricted	0.0030	0.0002	0.0000	0.0002
Intercity Bus	Diesel	Urban Unrestricted	0.0017	0.0001	0.0000	0.0001
Transit Bus	Gasoline	Off-Network	0.0000	0.0000	0.0000	0.0000
Transit Bus	Gasoline	Rural Restricted	0.0000	0.0000	0.0000	0.0000
Transit Bus	Gasoline	Rural Unrestricted	0.0000	0.0000	0.0000	0.0000
Transit Bus	Gasoline	Urban Restricted	0.0000	0.0000	0.0000	0.0000
Transit Bus	Gasoline	Urban Unrestricted	0.0000	0.0000	0.0000	0.0000
Transit Bus	Diesel	Off-Network	0.0000	0.0000	0.0000	0.0000
Transit Bus	Diesel	Rural Restricted	0.0028	0.0002	0.0000	0.0002
Transit Bus	Diesel	Rural Unrestricted	0.0033	0.0003	0.0000	0.0003
Transit Bus	Diesel	Urban Restricted	0.0043	0.0003	0.0000	0.0003
Transit Bus	Diesel	Urban Unrestricted	0.0018	0.0001	0.0000	0.0001
Transit Bus	CNG	Off-Network	0.0000	0.0000	0.0000	0.0000
Transit Bus	CNG	Rural Restricted	0.0003	0.0000	0.0000	0.0000
Transit Bus	CNG	Rural Unrestricted	0.0004	0.0001	0.0000	0.0001
Transit Bus	CNG	Urban Restricted	0.0005	0.0001	0.0000	0.0001
Transit Bus	CNG	Urban Unrestricted	0.0002	0.0000	0.0000	0.0000
School Bus	Gasoline	Off-Network	0.0000	0.0000	0.0000	0.0000
School Bus	Gasoline	Rural Restricted	0.0000	0.0000	0.0000	0.0000
School Bus	Gasoline	Rural Unrestricted	0.0000	0.0000	0.0000	0.0000
School Bus	Gasoline	Urban Restricted	0.0000	0.0000	0.0000	0.0000
School Bus	Gasoline	Urban Unrestricted	0.0000	0.0000	0.0000	0.0000
School Bus	Diesel	Off-Network	0.0000	0.0000	0.0000	0.0000
School Bus	Diesel	Rural Restricted	0.0045	0.0004	0.0000	0.0004
School Bus	Diesel	Rural Unrestricted	0.0055	0.0009	0.0000	0.0009
School Bus	Diesel	Urban Restricted	0.0069	0.0008	0.0000	0.0008
School Bus	Diesel	Urban Unrestricted	0.0031	0.0005	0.0000	0.0005
Refuse Truck	Gasoline	Off-Network	0.0000	0.0000	0.0000	0.0001
Refuse Truck	Gasoline	Rural Restricted	0.0001	0.0000	0.0000	0.0000
Refuse Truck	Gasoline	Rural Unrestricted	0.0001	0.0000	0.0000	0.0000
Refuse Truck	Gasoline	Urban Restricted	0.0001	0.0000	0.0000	0.0000
Refuse Truck	Gasoline	Urban Unrestricted	0.0000	0.0000	0.0000	0.0000
Refuse Truck	Diesel	Off-Network	0.0000	0.0000	0.0000	0.0000
Refuse Truck	Diesel	Rural Restricted	0.0043	0.0002	0.0000	0.0002
Refuse Truck	Diesel	Rural Unrestricted	0.0040	0.0002	0.0000	0.0002
Refuse Truck	Diesel	Urban Restricted	0.0045	0.0002	0.0000	0.0002
Refuse Truck	Diesel	Urban Unrestricted	0.0015	0.0001	0.0000	0.0001
Single Unit Short-haul Truck	Gasoline	Off-Network	0.0081	0.0082	0.0069	0.0151
Single Unit Short-haul Truck	Gasoline	Rural Restricted	0.0039	0.0007	0.0001	0.0008
Single Unit Short-haul Truck	Gasoline	Rural Unrestricted	0.0056	0.0016	0.0003	0.0018
Single Unit Short-haul Truck	Gasoline	Urban Restricted	0.0060	0.0012	0.0002	0.0014
Single Unit Short-haul Truck	Gasoline	Urban Unrestricted	0.0026	0.0009	0.0001	0.0010
Single Unit Short-haul Truck	Diesel	Off-Network	0.0056	0.0003	0.0000	0.0003
Single Unit Short-haul Truck	Diesel	Rural Restricted	0.0205	0.0019	0.0000	0.0019
Single Unit Short-haul Truck	Diesel	Rural Unrestricted	0.0324	0.0041	0.0000	0.0041
Single Unit Short-haul Truck	Diesel	Urban Restricted	0.0302	0.0031	0.0000	0.0031
Single Unit Short-haul Truck	Diesel	Urban Unrestricted	0.0160	0.0021	0.0000	0.0021
Single Unit Long-haul Truck	Gasoline	Off-Network	0.0002	0.0002	0.0002	0.0005
Single Unit Long-haul Truck	Gasoline	Rural Restricted	0.0001	0.0000	0.0000	0.0000
Single Unit Long-haul Truck	Gasoline	Rural Unrestricted	0.0002	0.0000	0.0000	0.0001

Sheboygan County Redesignation Request

Source Type	Fuel Type	Road Type	Sheboygan County – Year 2020			
			NO <sub>x</sub> Emissions (tpswd)	VOC Emissions (tpswd)		
				Exhaust	Evaporative	Total
Single Unit Long-haul Truck	Gasoline	Urban Restricted	0.0002	0.0000	0.0000	0.0000
Single Unit Long-haul Truck	Gasoline	Urban Unrestricted	0.0001	0.0000	0.0000	0.0000
Single Unit Long-haul Truck	Diesel	Off-Network	0.0002	0.0000	0.0000	0.0000
Single Unit Long-haul Truck	Diesel	Rural Restricted	0.0014	0.0001	0.0000	0.0001
Single Unit Long-haul Truck	Diesel	Rural Unrestricted	0.0022	0.0003	0.0000	0.0003
Single Unit Long-haul Truck	Diesel	Urban Restricted	0.0020	0.0002	0.0000	0.0002
Single Unit Long-haul Truck	Diesel	Urban Unrestricted	0.0011	0.0001	0.0000	0.0001
Motor Home	Gasoline	Off-Network	0.0004	0.0006	0.0018	0.0024
Motor Home	Gasoline	Rural Restricted	0.0004	0.0001	0.0000	0.0001
Motor Home	Gasoline	Rural Unrestricted	0.0007	0.0002	0.0000	0.0003
Motor Home	Gasoline	Urban Restricted	0.0008	0.0002	0.0000	0.0002
Motor Home	Gasoline	Urban Unrestricted	0.0004	0.0002	0.0000	0.0002
Motor Home	Diesel	Off-Network	0.0001	0.0000	0.0000	0.0000
Motor Home	Diesel	Rural Restricted	0.0006	0.0001	0.0000	0.0001
Motor Home	Diesel	Rural Unrestricted	0.0011	0.0002	0.0000	0.0002
Motor Home	Diesel	Urban Restricted	0.0011	0.0001	0.0000	0.0001
Motor Home	Diesel	Urban Unrestricted	0.0006	0.0001	0.0000	0.0001
Combination Short-haul Truck	Gasoline	Off-Network	0.0000	0.0000	0.0000	0.0000
Combination Short-haul Truck	Gasoline	Rural Restricted	0.0000	0.0000	0.0000	0.0000
Combination Short-haul Truck	Gasoline	Rural Unrestricted	0.0000	0.0000	0.0000	0.0000
Combination Short-haul Truck	Gasoline	Urban Restricted	0.0000	0.0000	0.0000	0.0000
Combination Short-haul Truck	Gasoline	Urban Unrestricted	0.0000	0.0000	0.0000	0.0000
Combination Short-haul Truck	Diesel	Off-Network	0.0000	0.0001	0.0000	0.0001
Combination Short-haul Truck	Diesel	Rural Restricted	0.0415	0.0016	0.0000	0.0016
Combination Short-haul Truck	Diesel	Rural Unrestricted	0.0385	0.0021	0.0000	0.0021
Combination Short-haul Truck	Diesel	Urban Restricted	0.0428	0.0018	0.0000	0.0018
Combination Short-haul Truck	Diesel	Urban Unrestricted	0.0145	0.0008	0.0000	0.0008
Combination Long-haul Truck	Diesel	Off-Network	0.3569	0.0718	0.0000	0.0718
Combination Long-haul Truck	Diesel	Rural Restricted	0.1688	0.0067	0.0000	0.0067
Combination Long-haul Truck	Diesel	Rural Unrestricted	0.1523	0.0084	0.0000	0.0084
Combination Long-haul Truck	Diesel	Urban Restricted	0.1702	0.0076	0.0000	0.0076
Combination Long-haul Truck	Diesel	Urban Unrestricted	0.0557	0.0032	0.0000	0.0032
<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>2.1053</b>	<b>0.6007</b>	<b>0.4914</b>	<b>1.0921</b>
Motorcycle	ALL	ALL	0.0149	0.0149	0.0480	0.0628
Passenger Car	ALL	ALL	0.3145	0.1872	0.2543	0.4415
Passenger Truck	ALL	ALL	0.3744	0.1827	0.1331	0.3158
Light Commercial Truck	ALL	ALL	0.1571	0.0796	0.0462	0.1258
Intercity Bus	ALL	ALL	0.0099	0.0006	0.0000	0.0006
Transit Bus	ALL	ALL	0.0137	0.0011	0.0000	0.0011
School Bus	ALL	ALL	0.0202	0.0027	0.0000	0.0027
Refuse Truck	ALL	ALL	0.0145	0.0008	0.0000	0.0008
Single Unit Short-haul Truck	ALL	ALL	0.1307	0.0240	0.0076	0.0316
Single Unit Long-haul Truck	ALL	ALL	0.0076	0.0012	0.0003	0.0015
Motor Home	ALL	ALL	0.0065	0.0018	0.0019	0.0037
Combination Short-haul Truck	ALL	ALL	0.1373	0.0064	0.0000	0.0064
Combination Long-haul Truck	ALL	ALL	0.9039	0.0977	0.0000	0.0977
<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>2.1053</b>	<b>0.6007</b>	<b>0.4914</b>	<b>1.0921</b>
ALL	Gasoline	ALL	0.8387	0.4660	0.4882	0.9542
ALL	Diesel	ALL	1.2599	0.1312	0.0000	0.1312
ALL	CNG	ALL	0.0014	0.0002	0.0000	0.0002



Sheboygan County Redesignation Request

Source Type	Fuel Type	Road Type	Sheboygan County – Year 2020			
			NO <sub>x</sub> Emissions (tpswd)	VOC Emissions (tpswd)		
			Total	Exhaust	Evaporative	Total
ALL	Ethanol (E-85)	ALL	0.0053	0.0033	0.0032	0.0065
<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>2.1053</b>	<b>0.6007</b>	<b>0.4914</b>	<b>1.0921</b>
ALL	ALL	Off-Network	0.6757	0.4216	0.4193	0.8409
ALL	ALL	Rural Restricted	0.3801	0.0386	0.0099	0.0486
ALL	ALL	Rural Unrestricted	0.4502	0.0659	0.0328	0.0987
ALL	ALL	Urban Restricted	0.4169	0.0459	0.0137	0.0596
ALL	ALL	Urban Unrestricted	0.1825	0.0287	0.0156	0.0443
<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>2.1053</b>	<b>0.6007</b>	<b>0.4914</b>	<b>1.0921</b>
Safety Margin			15%			15%
<b>Emissions Budget</b>			<b>2.4211</b>			<b>1.2559</b>

Sheboygan County Redesignation Request

**Table A8.4. 2030 Onroad NO<sub>x</sub> and VOC Emissions: tons per summer weekday (tpswd)  
Sheboygan County**

Source Type	Fuel Type	Road Type	Sheboygan County – Year 2030			
			NO <sub>x</sub> Emissions (tpswd)	VOC Emissions (tpswd)		
			Total	Exhaust	Evaporative	Total
Motorcycle	Gasoline	Off-Network	0.0002	0.0009	0.0381	0.0391
Motorcycle	Gasoline	Rural Restricted	0.0030	0.0022	0.0013	0.0035
Motorcycle	Gasoline	Rural Unrestricted	0.0067	0.0062	0.0053	0.0115
Motorcycle	Gasoline	Urban Restricted	0.0034	0.0025	0.0016	0.0042
Motorcycle	Gasoline	Urban Unrestricted	0.0023	0.0024	0.0021	0.0044
Passenger Car	Gasoline	Off-Network	0.0517	0.0656	0.1121	0.1777
Passenger Car	Gasoline	Rural Restricted	0.0179	0.0034	0.0026	0.0061
Passenger Car	Gasoline	Rural Unrestricted	0.0192	0.0043	0.0078	0.0121
Passenger Car	Gasoline	Urban Restricted	0.0203	0.0041	0.0039	0.0079
Passenger Car	Gasoline	Urban Unrestricted	0.0088	0.0021	0.0041	0.0062
Passenger Car	Diesel	Off-Network	0.0006	0.0006	0.0000	0.0006
Passenger Car	Diesel	Rural Restricted	0.0002	0.0000	0.0000	0.0000
Passenger Car	Diesel	Rural Unrestricted	0.0002	0.0000	0.0000	0.0000
Passenger Car	Diesel	Urban Restricted	0.0003	0.0000	0.0000	0.0000
Passenger Car	Diesel	Urban Unrestricted	0.0001	0.0000	0.0000	0.0000
Passenger Car	Ethanol (E-85)	Off-Network	0.0007	0.0010	0.0017	0.0027
Passenger Car	Ethanol (E-85)	Rural Restricted	0.0002	0.0000	0.0000	0.0001
Passenger Car	Ethanol (E-85)	Rural Unrestricted	0.0002	0.0001	0.0001	0.0002
Passenger Car	Ethanol (E-85)	Urban Restricted	0.0003	0.0001	0.0001	0.0001
Passenger Car	Ethanol (E-85)	Urban Unrestricted	0.0001	0.0000	0.0001	0.0001
Passenger Truck	Gasoline	Off-Network	0.0408	0.0460	0.0718	0.1178
Passenger Truck	Gasoline	Rural Restricted	0.0211	0.0039	0.0021	0.0061
Passenger Truck	Gasoline	Rural Unrestricted	0.0233	0.0046	0.0073	0.0119
Passenger Truck	Gasoline	Urban Restricted	0.0214	0.0041	0.0028	0.0069
Passenger Truck	Gasoline	Urban Unrestricted	0.0088	0.0018	0.0031	0.0049
Passenger Truck	Diesel	Off-Network	0.0033	0.0004	0.0000	0.0004
Passenger Truck	Diesel	Rural Restricted	0.0015	0.0002	0.0000	0.0002
Passenger Truck	Diesel	Rural Unrestricted	0.0035	0.0004	0.0000	0.0004
Passenger Truck	Diesel	Urban Restricted	0.0018	0.0002	0.0000	0.0002
Passenger Truck	Diesel	Urban Unrestricted	0.0014	0.0002	0.0000	0.0002
Passenger Truck	Ethanol (E-85)	Off-Network	0.0019	0.0027	0.0043	0.0069
Passenger Truck	Ethanol (E-85)	Rural Restricted	0.0010	0.0002	0.0001	0.0003
Passenger Truck	Ethanol (E-85)	Rural Unrestricted	0.0010	0.0002	0.0005	0.0007
Passenger Truck	Ethanol (E-85)	Urban Restricted	0.0010	0.0002	0.0002	0.0004
Passenger Truck	Ethanol (E-85)	Urban Unrestricted	0.0004	0.0001	0.0002	0.0003
Light Commercial Truck	Gasoline	Off-Network	0.0146	0.0167	0.0180	0.0347
Light Commercial Truck	Gasoline	Rural Restricted	0.0063	0.0012	0.0005	0.0017
Light Commercial Truck	Gasoline	Rural Unrestricted	0.0080	0.0016	0.0019	0.0034
Light Commercial Truck	Gasoline	Urban Restricted	0.0064	0.0012	0.0007	0.0019
Light Commercial Truck	Gasoline	Urban Unrestricted	0.0030	0.0006	0.0008	0.0014
Light Commercial Truck	Diesel	Off-Network	0.0022	0.0005	0.0000	0.0005
Light Commercial Truck	Diesel	Rural Restricted	0.0010	0.0001	0.0000	0.0001
Light Commercial Truck	Diesel	Rural Unrestricted	0.0023	0.0003	0.0000	0.0003
Light Commercial Truck	Diesel	Urban Restricted	0.0012	0.0002	0.0000	0.0002
Light Commercial Truck	Diesel	Urban Unrestricted	0.0009	0.0001	0.0000	0.0001
Light Commercial Truck	Ethanol (E-85)	Off-Network	0.0005	0.0007	0.0010	0.0017
Light Commercial Truck	Ethanol (E-85)	Rural Restricted	0.0002	0.0000	0.0000	0.0001
Light Commercial Truck	Ethanol (E-85)	Rural Unrestricted	0.0003	0.0001	0.0001	0.0002
Light Commercial Truck	Ethanol (E-85)	Urban Restricted	0.0002	0.0000	0.0000	0.0001

# Sheboygan County Redesignation Request

Source Type	Fuel Type	Road Type	Sheboygan County – Year 2030			
			NO <sub>x</sub> Emissions (tpswd)	VOC Emissions (tpswd)		
			Total	Exhaust	Evaporative	Total
Light Commercial Truck	Ethanol (E-85)	Urban Unrestricted	0.0001	0.0000	0.0000	0.0001
Intercity Bus	Diesel	Off-Network	0.0000	0.0000	0.0000	0.0000
Intercity Bus	Diesel	Rural Restricted	0.0008	0.0000	0.0000	0.0000
Intercity Bus	Diesel	Rural Unrestricted	0.0012	0.0001	0.0000	0.0001
Intercity Bus	Diesel	Urban Restricted	0.0012	0.0001	0.0000	0.0001
Intercity Bus	Diesel	Urban Unrestricted	0.0007	0.0000	0.0000	0.0000
Transit Bus	Gasoline	Off-Network	0.0000	0.0000	0.0000	0.0000
Transit Bus	Gasoline	Rural Restricted	0.0000	0.0000	0.0000	0.0000
Transit Bus	Gasoline	Rural Unrestricted	0.0000	0.0000	0.0000	0.0000
Transit Bus	Gasoline	Urban Restricted	0.0000	0.0000	0.0000	0.0000
Transit Bus	Gasoline	Urban Unrestricted	0.0000	0.0000	0.0000	0.0000
Transit Bus	Diesel	Off-Network	0.0000	0.0000	0.0000	0.0000
Transit Bus	Diesel	Rural Restricted	0.0009	0.0000	0.0000	0.0000
Transit Bus	Diesel	Rural Unrestricted	0.0012	0.0001	0.0000	0.0001
Transit Bus	Diesel	Urban Restricted	0.0015	0.0001	0.0000	0.0001
Transit Bus	Diesel	Urban Unrestricted	0.0006	0.0000	0.0000	0.0000
Transit Bus	CNG	Off-Network	0.0000	0.0000	0.0000	0.0000
Transit Bus	CNG	Rural Restricted	0.0002	0.0000	0.0000	0.0000
Transit Bus	CNG	Rural Unrestricted	0.0002	0.0000	0.0000	0.0000
Transit Bus	CNG	Urban Restricted	0.0003	0.0000	0.0000	0.0000
Transit Bus	CNG	Urban Unrestricted	0.0001	0.0000	0.0000	0.0000
School Bus	Gasoline	Off-Network	0.0000	0.0000	0.0000	0.0000
School Bus	Gasoline	Rural Restricted	0.0000	0.0000	0.0000	0.0000
School Bus	Gasoline	Rural Unrestricted	0.0000	0.0000	0.0000	0.0000
School Bus	Gasoline	Urban Restricted	0.0000	0.0000	0.0000	0.0000
School Bus	Gasoline	Urban Unrestricted	0.0000	0.0000	0.0000	0.0000
School Bus	Diesel	Off-Network	0.0000	0.0000	0.0000	0.0000
School Bus	Diesel	Rural Restricted	0.0022	0.0002	0.0000	0.0002
School Bus	Diesel	Rural Unrestricted	0.0028	0.0003	0.0000	0.0003
School Bus	Diesel	Urban Restricted	0.0036	0.0003	0.0000	0.0003
School Bus	Diesel	Urban Unrestricted	0.0015	0.0002	0.0000	0.0002
Refuse Truck	Gasoline	Off-Network	0.0000	0.0000	0.0000	0.0000
Refuse Truck	Gasoline	Rural Restricted	0.0000	0.0000	0.0000	0.0000
Refuse Truck	Gasoline	Rural Unrestricted	0.0000	0.0000	0.0000	0.0000
Refuse Truck	Gasoline	Urban Restricted	0.0000	0.0000	0.0000	0.0000
Refuse Truck	Gasoline	Urban Unrestricted	0.0000	0.0000	0.0000	0.0000
Refuse Truck	Diesel	Off-Network	0.0000	0.0000	0.0000	0.0000
Refuse Truck	Diesel	Rural Restricted	0.0018	0.0001	0.0000	0.0001
Refuse Truck	Diesel	Rural Unrestricted	0.0017	0.0001	0.0000	0.0001
Refuse Truck	Diesel	Urban Restricted	0.0019	0.0001	0.0000	0.0001
Refuse Truck	Diesel	Urban Unrestricted	0.0006	0.0000	0.0000	0.0000
Single Unit Short-haul Truck	Gasoline	Off-Network	0.0024	0.0029	0.0029	0.0058
Single Unit Short-haul Truck	Gasoline	Rural Restricted	0.0020	0.0003	0.0001	0.0004
Single Unit Short-haul Truck	Gasoline	Rural Unrestricted	0.0028	0.0008	0.0002	0.0009
Single Unit Short-haul Truck	Gasoline	Urban Restricted	0.0032	0.0006	0.0001	0.0007
Single Unit Short-haul Truck	Gasoline	Urban Unrestricted	0.0013	0.0004	0.0001	0.0005
Single Unit Short-haul Truck	Diesel	Off-Network	0.0060	0.0003	0.0000	0.0003
Single Unit Short-haul Truck	Diesel	Rural Restricted	0.0088	0.0006	0.0000	0.0006
Single Unit Short-haul Truck	Diesel	Rural Unrestricted	0.0140	0.0012	0.0000	0.0012
Single Unit Short-haul Truck	Diesel	Urban Restricted	0.0134	0.0009	0.0000	0.0009
Single Unit Short-haul Truck	Diesel	Urban Unrestricted	0.0068	0.0006	0.0000	0.0006
Single Unit Long-haul Truck	Gasoline	Off-Network	0.0000	0.0000	0.0000	0.0000
Single Unit Long-haul Truck	Gasoline	Rural Restricted	0.0000	0.0000	0.0000	0.0000
Single Unit Long-haul Truck	Gasoline	Rural Unrestricted	0.0000	0.0000	0.0000	0.0000

# Sheboygan County Redesignation Request

Source Type	Fuel Type	Road Type	Sheboygan County – Year 2030			
			NO <sub>x</sub> Emissions (tpswd)	VOC Emissions (tpswd)		
				Exhaust	Evaporative	Total
Single Unit Long-haul Truck	Gasoline	Urban Restricted	0.0000	0.0000	0.0000	0.0000
Single Unit Long-haul Truck	Gasoline	Urban Unrestricted	0.0000	0.0000	0.0000	0.0000
Single Unit Long-haul Truck	Diesel	Off-Network	0.0002	0.0000	0.0000	0.0000
Single Unit Long-haul Truck	Diesel	Rural Restricted	0.0007	0.0000	0.0000	0.0000
Single Unit Long-haul Truck	Diesel	Rural Unrestricted	0.0012	0.0001	0.0000	0.0001
Single Unit Long-haul Truck	Diesel	Urban Restricted	0.0011	0.0001	0.0000	0.0001
Single Unit Long-haul Truck	Diesel	Urban Unrestricted	0.0006	0.0001	0.0000	0.0001
Motor Home	Gasoline	Off-Network	0.0001	0.0002	0.0006	0.0008
Motor Home	Gasoline	Rural Restricted	0.0001	0.0000	0.0000	0.0000
Motor Home	Gasoline	Rural Unrestricted	0.0002	0.0001	0.0000	0.0001
Motor Home	Gasoline	Urban Restricted	0.0002	0.0000	0.0000	0.0001
Motor Home	Gasoline	Urban Unrestricted	0.0001	0.0000	0.0000	0.0000
Motor Home	Diesel	Off-Network	0.0002	0.0000	0.0000	0.0000
Motor Home	Diesel	Rural Restricted	0.0003	0.0000	0.0000	0.0000
Motor Home	Diesel	Rural Unrestricted	0.0005	0.0001	0.0000	0.0001
Motor Home	Diesel	Urban Restricted	0.0005	0.0000	0.0000	0.0000
Motor Home	Diesel	Urban Unrestricted	0.0003	0.0000	0.0000	0.0000
Combination Short-haul Truck	Gasoline	Off-Network	0.0000	0.0000	0.0000	0.0000
Combination Short-haul Truck	Gasoline	Rural Restricted	0.0000	0.0000	0.0000	0.0000
Combination Short-haul Truck	Gasoline	Rural Unrestricted	0.0000	0.0000	0.0000	0.0000
Combination Short-haul Truck	Gasoline	Urban Restricted	0.0000	0.0000	0.0000	0.0000
Combination Short-haul Truck	Gasoline	Urban Unrestricted	0.0000	0.0000	0.0000	0.0000
Combination Short-haul Truck	Diesel	Off-Network	0.0000	0.0001	0.0000	0.0001
Combination Short-haul Truck	Diesel	Rural Restricted	0.0181	0.0005	0.0000	0.0005
Combination Short-haul Truck	Diesel	Rural Unrestricted	0.0173	0.0008	0.0000	0.0008
Combination Short-haul Truck	Diesel	Urban Restricted	0.0193	0.0007	0.0000	0.0007
Combination Short-haul Truck	Diesel	Urban Unrestricted	0.0065	0.0003	0.0000	0.0003
Combination Long-haul Truck	Diesel	Off-Network	0.3474	0.0586	0.0000	0.0586
Combination Long-haul Truck	Diesel	Rural Restricted	0.0655	0.0021	0.0000	0.0021
Combination Long-haul Truck	Diesel	Rural Unrestricted	0.0601	0.0028	0.0000	0.0028
Combination Long-haul Truck	Diesel	Urban Restricted	0.0679	0.0025	0.0000	0.0025
Combination Long-haul Truck	Diesel	Urban Unrestricted	0.0220	0.0010	0.0000	0.0010
<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>1.0321</b>	<b>0.2646</b>	<b>0.3007</b>	<b>0.5653</b>
Motorcycle	ALL	ALL	0.0156	0.0142	0.0484	0.0627
Passenger Car	ALL	ALL	0.1208	0.0815	0.1325	0.2140
Passenger Truck	ALL	ALL	0.1323	0.0651	0.0925	0.1576
Light Commercial Truck	ALL	ALL	0.0471	0.0234	0.0232	0.0466
Intercity Bus	ALL	ALL	0.0039	0.0002	0.0000	0.0002
Transit Bus	ALL	ALL	0.0052	0.0003	0.0000	0.0003
School Bus	ALL	ALL	0.0102	0.0009	0.0000	0.0009
Refuse Truck	ALL	ALL	0.0061	0.0002	0.0000	0.0002
Single Unit Short-haul Truck	ALL	ALL	0.0607	0.0086	0.0033	0.0119
Single Unit Long-haul Truck	ALL	ALL	0.0038	0.0003	0.0000	0.0004
Motor Home	ALL	ALL	0.0025	0.0005	0.0007	0.0012
Combination Short-haul Truck	ALL	ALL	0.0611	0.0024	0.0000	0.0024
Combination Long-haul Truck	ALL	ALL	0.5629	0.0669	0.0000	0.0669
<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>1.0321</b>	<b>0.2646</b>	<b>0.3007</b>	<b>0.5653</b>
ALL	Gasoline	ALL	0.2998	0.1807	0.2921	0.4729
ALL	Diesel	ALL	0.7232	0.0783	0.0000	0.0783
ALL	CNG	ALL	0.0009	0.0001	0.0000	0.0001

Sheboygan County Redesignation Request

Source Type	Fuel Type	Road Type	Sheboygan County – Year 2030			
			NO <sub>x</sub> Emissions (tpswd)	VOC Emissions (tpswd)		
			Total	Exhaust	Evaporative	Total
ALL	Ethanol (E-85)	ALL	0.0083	0.0055	0.0086	0.0141
<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>1.0321</b>	<b>0.2646</b>	<b>0.3007</b>	<b>0.5653</b>
ALL	ALL	Off-Network	0.4727	0.1973	0.2506	0.4479
ALL	ALL	Rural Restricted	0.1540	0.0152	0.0069	0.0222
ALL	ALL	Rural Unrestricted	0.1679	0.0241	0.0231	0.0472
ALL	ALL	Urban Restricted	0.1706	0.0179	0.0095	0.0274
ALL	ALL	Urban Unrestricted	0.0670	0.0101	0.0106	0.0207
<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>1.0321</b>	<b>0.2646</b>	<b>0.3007</b>	<b>0.5653</b>
Safety Margin			15%			15%
<b>Emissions Budget</b>			<b>1.1870</b>			<b>0.6501</b>

Sheboygan County Redesignation Request

**Table A8.5. Vehicle Activity Data Output from the MOVES2014a Model for Years 2011, 2014, 2020 and 2030 for Sheboygan County.**

Source Type	Fuel Type	Road Type	Sheboygan County							
			Vehicle Population				Vehicle-Miles of Travel Summer Weekday			
			2011	2014	2020	2030	2011	2014	2020	2030
Motorcycle	Gasoline	Off-Network	2,935	2,829	3,182	3,374				
Motorcycle	Gasoline	Rural Restricted					3,716	3,574	4,025	4,317
Motorcycle	Gasoline	Rural Unrestricted					9,847	9,279	10,170	10,698
Motorcycle	Gasoline	Urban Restricted					3,410	3,616	4,471	4,835
Motorcycle	Gasoline	Urban					3,430	3,324	3,742	3,912
Passenger Car	Gasoline	Off-Network	41,407	39,773	44,350	46,464				
Passenger Car	Gasoline	Rural Restricted					282,307	269,829	300,611	321,487
Passenger Car	Gasoline	Rural Unrestricted					551,541	516,730	560,203	587,585
Passenger Car	Gasoline	Urban Restricted					305,241	321,524	393,541	424,469
Passenger Car	Gasoline	Urban					257,320	247,853	276,090	287,779
Passenger Car	Diesel	Off-Network	175	239	389	545				
Passenger Car	Diesel	Rural Restricted					1,152	1,690	2,873	3,825
Passenger Car	Diesel	Rural Unrestricted					2,250	3,237	5,354	6,991
Passenger Car	Diesel	Urban Restricted					1,245	2,014	3,761	5,051
Passenger Car	Diesel	Urban					1,050	1,552	2,638	3,424
Passenger Car	Ethanol (E-85)	Off-Network	3	26	248	692				
Passenger Car	Ethanol (E-85)	Rural Restricted					25	196	1,772	4,813
Passenger Car	Ethanol (E-85)	Rural Unrestricted					49	375	3,302	8,797
Passenger Car	Ethanol (E-85)	Urban Restricted					27	233	2,320	6,355
Passenger Car	Ethanol (E-85)	Urban					23	180	1,627	4,308
Passenger Truck	Gasoline	Off-Network	28,820	27,567	30,287	30,940				
Passenger Truck	Gasoline	Rural Restricted					221,713	210,964	227,155	230,895
Passenger Truck	Gasoline	Rural Unrestricted					501,605	467,805	490,205	488,694
Passenger Truck	Gasoline	Urban Restricted					216,861	227,487	269,015	275,782
Passenger Truck	Gasoline	Urban					189,137	181,368	195,255	193,439
Passenger Truck	Diesel	Off-Network	486	502	605	665				
Passenger Truck	Diesel	Rural Restricted					3,875	3,950	4,609	4,977
Passenger Truck	Diesel	Rural Unrestricted					8,766	8,759	9,947	10,534
Passenger Truck	Diesel	Urban Restricted					3,790	4,259	5,459	5,945
Passenger Truck	Diesel	Urban					3,305	3,396	3,962	4,170
Passenger Truck	Ethanol (E-85)	Off-Network	7	59	597	1,779				
Passenger Truck	Ethanol (E-85)	Rural Restricted					56	501	4,798	13,411
Passenger Truck	Ethanol (E-85)	Rural Unrestricted					127	1,110	10,355	28,384
Passenger Truck	Ethanol (E-85)	Urban Restricted					55	540	5,683	16,018

# Sheboygan County Redesignation Request

Source Type	Fuel Type	Road Type	Sheboygan County							
			Vehicle Population				Vehicle-Miles of Travel Summer Weekday			
			2011	2014	2020	2030	2011	2014	2020	2030
Passenger Truck	Ethanol (E-85)	Urban					48	430	4,124	11,235
Light Commercial Truck	Gasoline	Off-Network	6,781	6,608	7,443	7,641				
Light Commercial Truck	Gasoline	Rural Restricted					48,889	46,622	54,710	57,316
Light Commercial Truck	Gasoline	Rural Unrestricted					109,766	102,600	117,170	120,389
Light Commercial Truck	Gasoline	Urban Restricted					47,466	49,903	64,315	67,952
Light Commercial Truck	Gasoline	Urban					41,248	39,642	46,512	47,491
Light Commercial Truck	Diesel	Off-Network	383	378	424	452				
Light Commercial Truck	Diesel	Rural Restricted					2,793	2,669	3,123	3,390
Light Commercial Truck	Diesel	Rural Unrestricted					6,272	5,874	6,688	7,120
Light Commercial Truck	Diesel	Urban Restricted					2,712	2,857	3,671	4,019
Light Commercial Truck	Diesel	Urban					2,357	2,270	2,655	2,809
Light Commercial Truck	Ethanol (E-85)	Off-Network	1	10	130	415				
Light Commercial Truck	Ethanol (E-85)	Rural Restricted					10	87	1,060	3,167
Light Commercial Truck	Ethanol (E-85)	Rural Unrestricted					23	192	2,271	6,652
Light Commercial Truck	Ethanol (E-85)	Urban Restricted					10	93	1,246	3,755
Light Commercial Truck	Ethanol (E-85)	Urban					9	74	901	2,624
Intercity Bus	Diesel	Off-Network	4	4	5	6				
Intercity Bus	Diesel	Rural Restricted					262	250	288	320
Intercity Bus	Diesel	Rural Unrestricted					471	436	485	524
Intercity Bus	Diesel	Urban Restricted					331	352	456	518
Intercity Bus	Diesel	Urban					237	227	260	278
Transit Bus	Gasoline	Off-Network	0	0	0	1				
Transit Bus	Gasoline	Rural Restricted					7	7	11	15
Transit Bus	Gasoline	Rural Unrestricted					12	13	19	25
Transit Bus	Gasoline	Urban Restricted					9	11	18	25
Transit Bus	Gasoline	Urban					6	7	10	14
Transit Bus	Diesel	Off-Network	15	14	17	18				
Transit Bus	Diesel	Rural Restricted					459	420	476	529
Transit Bus	Diesel	Rural Unrestricted					839	748	816	883
Transit Bus	Diesel	Urban Restricted					588	603	766	872
Transit Bus	Diesel	Urban					425	391	440	472
Transit Bus	CNG	Off-Network	2	2	3	3				
Transit Bus	CNG	Rural Restricted					62	62	82	100
Transit Bus	CNG	Rural Unrestricted					113	110	141	167
Transit Bus	CNG	Urban Restricted					79	89	132	165
Transit Bus	CNG	Urban					57	58	76	89
School Bus	Gasoline	Off-Network	3	2	2	2				
School Bus	Gasoline	Rural Restricted					25	16	17	17
School Bus	Gasoline	Rural Unrestricted					46	29	29	29

# Sheboygan County Redesignation Request

Source Type	Fuel Type	Road Type	Sheboygan County							
			Vehicle Population				Vehicle-Miles of Travel Summer Weekday			
			2011	2014	2020	2030	2011	2014	2020	2030
School Bus	Gasoline	Urban Restricted					32	23	27	28
School Bus	Gasoline	Urban					23	15	16	15
School Bus	Diesel	Off-Network	145	147	180	199				
School Bus	Diesel	Rural Restricted					1,404	1,342	1,547	1,708
School Bus	Diesel	Rural Unrestricted					2,566	2,389	2,654	2,850
School Bus	Diesel	Urban Restricted					1,800	1,928	2,491	2,818
School Bus	Diesel	Urban					1,298	1,249	1,432	1,523
Refuse Truck	Gasoline	Off-Network	3	2	2	0				
Refuse Truck	Gasoline	Rural Restricted					51	32	14	4
Refuse Truck	Gasoline	Rural Unrestricted					52	32	13	4
Refuse Truck	Gasoline	Urban Restricted					44	31	15	5
Refuse Truck	Gasoline	Urban					18	11	5	1
Refuse Truck	Diesel	Off-Network	46	47	61	67				
Refuse Truck	Diesel	Rural Restricted					1,160	1,136	1,320	1,443
Refuse Truck	Diesel	Rural Unrestricted					1,183	1,129	1,263	1,344
Refuse Truck	Diesel	Urban Restricted					987	1,083	1,412	1,581
Refuse Truck	Diesel	Urban					405	400	462	487
Single Unit Short-haul Truck	Gasoline	Off-Network	515	513	608	658				
Single Unit Short-haul Truck	Gasoline	Rural Restricted					5,223	5,117	6,171	6,833
Single Unit Short-haul Truck	Gasoline	Rural Unrestricted					8,240	7,865	9,137	9,844
Single Unit Short-haul Truck	Gasoline	Urban Restricted					6,054	6,646	8,985	10,190
Single Unit Short-haul Truck	Gasoline	Urban					3,569	3,519	4,220	4,506
Single Unit Short-haul Truck	Diesel	Off-Network	1,017	1,044	1,303	1,406				
Single Unit Short-haul Truck	Diesel	Rural Restricted					11,872	11,457	13,320	14,408
Single Unit Short-haul Truck	Diesel	Rural Unrestricted					18,731	17,609	19,723	20,758
Single Unit Short-haul Truck	Diesel	Urban Restricted					13,762	14,880	19,396	21,488
Single Unit Short-haul Truck	Diesel	Urban					8,114	7,880	9,110	9,502
Single Unit Long-haul Truck	Gasoline	Off-Network	17	14	9	1				
Single Unit Long-haul Truck	Gasoline	Rural Restricted					175	101	37	2
Single Unit Long-haul Truck	Gasoline	Rural Unrestricted					276	155	54	3
Single Unit Long-haul Truck	Gasoline	Urban Restricted					202	131	53	3
Single Unit Long-haul Truck	Gasoline	Urban					119	69	25	1
Single Unit Long-haul Truck	Diesel	Off-Network	47	52	72	84				
Single Unit Long-haul Truck	Diesel	Rural Restricted					760	814	1,095	1,235
Single Unit Long-haul Truck	Diesel	Rural Unrestricted					1,197	1,249	1,618	1,776
Single Unit Long-haul Truck	Diesel	Urban Restricted					880	1,055	1,592	1,838
Single Unit Long-haul Truck	Diesel	Urban					518	558	746	811
Motor Home	Gasoline	Off-Network	241	233	257	257				
Motor Home	Gasoline	Rural Restricted					312	296	283	264



Sheboygan County Redesignation Request

Source Type	Fuel Type	Road Type	Sheboygan County							
			Vehicle Population				Vehicle-Miles of Travel Summer Weekday			
			2011	2014	2020	2030	2011	2014	2020	2030
Motor Home	Gasoline	Rural Unrestricted					655	605	557	505
Motor Home	Gasoline	Urban Restricted					462	491	525	501
Motor Home	Gasoline	Urban					327	312	296	266
Motor Home	Diesel	Off-Network	128	142	207	251				
Motor Home	Diesel	Rural Restricted					166	181	228	258
Motor Home	Diesel	Rural Unrestricted					348	369	448	494
Motor Home	Diesel	Urban Restricted					245	299	422	491
Motor Home	Diesel	Urban					174	190	238	261
Combination Short-haul	Gasoline	Off-Network	1	0	0	0				
Combination Short-haul	Gasoline	Rural Restricted					4	2	0	0
Combination Short-haul	Gasoline	Rural Unrestricted					4	2	0	0
Combination Short-haul	Gasoline	Urban Restricted					3	2	0	0
Combination Short-haul	Gasoline	Urban					1	1	0	0
Combination Short-haul	Diesel	Off-Network	330	319	363	374				
Combination Short-haul	Diesel	Rural Restricted					9,835	9,546	12,271	13,974
Combination Short-haul	Diesel	Rural Unrestricted					10,253	9,695	12,006	13,304
Combination Short-haul	Diesel	Urban Restricted					8,449	9,187	13,243	15,445
Combination Short-haul	Diesel	Urban					3,497	3,416	4,367	4,795
Combination Long-haul	Diesel	Off-Network	350	348	435	513				
Combination Long-haul	Diesel	Rural Restricted					36,404	33,622	37,007	40,912
Combination Long-haul	Diesel	Rural Unrestricted					35,762	32,180	34,120	36,704
Combination Long-haul	Diesel	Urban Restricted					30,206	31,255	38,576	43,678
Combination Long-haul	Diesel	Urban					11,867	11,031	12,073	12,870
<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>83,859</b>	<b>80,876</b>	<b>91,178</b>	<b>96,807</b>	<b>3,077,240</b>	<b>2,985,074</b>	<b>3,390,525</b>	<b>3,605,590</b>
Motorcycle	ALL	ALL	2,935	2,829	3,182	3,374	20,403	19,793	22,407	23,761
Passenger Car	ALL	ALL	41,585	40,038	44,987	47,701	1,402,230	1,365,413	1,554,091	1,664,885
Passenger Truck	ALL	ALL	29,312	28,128	31,489	33,384	1,149,338	1,110,569	1,230,568	1,283,484
Light Commercial Truck	ALL	ALL	7,165	6,997	7,997	8,508	261,555	252,885	304,321	326,684
Intercity Bus	ALL	ALL	4	4	5	6	1,301	1,265	1,489	1,640
Transit Bus	ALL	ALL	16	17	20	22	2,656	2,520	2,987	3,357
School Bus	ALL	ALL	148	148	182	201	7,193	6,990	8,213	8,988
Refuse Truck	ALL	ALL	49	50	62	67	3,900	3,854	4,505	4,870
Single Unit Short-haul Truck	ALL	ALL	1,531	1,557	1,911	2,064	75,565	74,973	90,061	97,530
Single Unit Long-haul Truck	ALL	ALL	64	66	81	85	4,127	4,132	5,220	5,669
Motor Home	ALL	ALL	369	376	463	508	2,688	2,742	2,998	3,040
Combination Short-haul	ALL	ALL	331	319	363	374	32,045	31,851	41,887	47,517
Combination Long-haul	ALL	ALL	350	348	435	513	114,240	108,088	121,776	134,164

Sheboygan County Redesignation Request

Source Type	Fuel Type	Road Type	Sheboygan County							
			Vehicle Population				Vehicle-Miles of Travel Summer Weekday			
			2011	2014	2020	2030	2011	2014	2020	2030
<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>83,859</b>	<b>80,876</b>	<b>91,178</b>	<b>96,807</b>	<b>3,077,240</b>	<b>2,985,074</b>	<b>3,390,525</b>	<b>3,605,590</b>
ALL	Gasoline	ALL	80,721	77,543	86,139	89,337	2,819,447	2,727,661	3,047,726	3,160,144
ALL	Diesel	ALL	3,125	3,237	4,060	4,580	257,020	253,082	302,909	335,405
ALL	CNG	ALL	2	2	3	3	312	319	431	523
ALL	Ethanol (E-85)	ALL	11	95	976	2,886	462	4,011	39,459	109,519
<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>83,859</b>	<b>80,876</b>	<b>91,178</b>	<b>96,807</b>	<b>3,077,240</b>	<b>2,985,074</b>	<b>3,390,525</b>	<b>3,605,590</b>
ALL	ALL	Off-Network	83,859	80,876	91,178	96,807				
ALL	ALL	Rural Restricted					632,717	604,483	678,904	729,621
ALL	ALL	Rural Unrestricted					1,270,993	1,190,577	1,298,747	1,365,059
ALL	ALL	Urban Restricted					644,949	680,592	841,591	913,826
ALL	ALL	Urban					528,581	509,421	571,283	597,084
<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>ALL (Total)</b>	<b>83,859</b>	<b>80,876</b>	<b>91,178</b>	<b>96,807</b>	<b>3,077,240</b>	<b>2,985,074</b>	<b>3,390,525</b>	<b>3,605,590</b>

## **APPENDIX 9**

### **Permanent and Enforceable Control Measures in Sheboygan County**

## Sheboygan County Redesignation Request

This appendix provides additional details about the permanent and enforceable control measures that have reduced emissions of ozone precursors from Sheboygan County. This information expands upon that presented in Section 6 of the Sheboygan County Redesignation Request.

### 1. Point Source Control Measures

#### NO<sub>x</sub> Control Measures

*Consent Decree for Edgewater EGU* – Table A9.1 shows that approximately 78% of annual point source NO<sub>x</sub> emissions in Sheboygan County during 2014 originated from two coal-fired boilers operated by Wisconsin Power and Light (WPL) at the Edgewater electric utility plant. Another boiler at Edgewater was retired in 2015 and last operated in 2013.

Edgewater's boilers have been subject to NO<sub>x</sub> emissions limitations under a consent decree (CD) since 2013. Under the CD, Edgewater coal-fired boiler B23 has a NO<sub>x</sub> cap of 250 tons per year and was required to retire, refuel or repower by December 31, 2015. Boiler B23 was retired in 2015. Edgewater coal-fired boiler B24 has a limitation of 0.170 pounds per million British thermal units (mmBTU) on a 30-day rolling average and 0.150 lb/mmBTU on a 12-month rolling average, with a requirement to retire, refuel or repower by December 31, 2018. Edgewater coal-fired boiler B25 has a limitation of 0.080 lb/mmBTU on a 30-day rolling average and 0.070 lb/mmBTU on a 12-month rolling average. The CD control requirements are permanent and federally enforceable under the Title I permit 13-POY-154-R1.

**Table A9.1. 2008-2014 NO<sub>x</sub> emissions and requirements for point sources in the Sheboygan County nonattainment area.**

FID	Facility	2008 NO <sub>x</sub> (Annual Tons)	2011 NO <sub>x</sub> (Annual Tons)	2014 NO <sub>x</sub> (Annual Tons)	2008 – 2014 Emissions Change	Permanent and Enforceable Control Measures
460033090	WPL-Edgewater Power Plant: Boilers B23, B24 & B25	4,503.0	3,297.6	1,639.7	-63.6%	Boiler B23: retired in 2015 Boiler B24: 0.15 lb/mmBTU (required to refuel or retire by Dec 31, 2018) Boiler B25: 0.07 lb/mmBTU (May 2013)
	Percent of Total	95.1%	88.3%	78.5%		
Multiple	Balance of Emission Units (NO <sub>x</sub> tons)	231.7	435.2	448.5	93.9%	Emission units become subject to NO <sub>x</sub> RACT if facilities exceed 100 TPY PTE in the future.
	Percent of Total	4.9%	11.7%	21.5%		
	Number of Emission Units	148	151	148		
<b>Total</b>		<b>4,734.7</b>	<b>3,732.8</b>	<b>2,088.3</b>	<b>-55.9%</b>	

*Wisconsin NO<sub>x</sub> RACT* – Wisconsin has implemented RACT for major NO<sub>x</sub> sources (sources with a Potential to Emit, PTE, of 100 tons or greater per year) in Wisconsin as part of compliance requirements for the 1997 ozone NAAQS. NO<sub>x</sub> RACT applies to all of Sheboygan County. The NO<sub>x</sub> RACT requirements are codified under ss. NR 428.20 to 428.25, Wis. Adm. Code and became applicable May 1, 2009.

In 2014, approximately 148 individual emission units were responsible for 21.5% of NO<sub>x</sub> emitted by point sources in the Sheboygan County nonattainment area (Table A9.1). These emission units are at smaller facilities that do not have PTEs above major source thresholds or are individual emissions units that are relatively small in PTE or operate infrequently (e.g., batch heat treat furnaces, emergency generators, auxiliary boilers) and therefore are not subject to NO<sub>x</sub> RACT requirements. If the owners of these facilities modify or add sources such that total facility potential emissions increase above 100 tons per year, the facilities and emission units become subject to state NO<sub>x</sub> RACT requirements. In addition, any new emission units at these facilities would be subject to performance standards under s. NR 428.05, Wis. Adm. Code, as discussed in section 5.

*Federal NO<sub>x</sub> Transport Rules* – Beginning January 1, 2009, EGUs in 22 states east of the Mississippi (including Wisconsin) became subject to ozone season NO<sub>x</sub> emission budgets under the Clean Air Interstate Rule (CAIR). CAIR addresses the broad regional interstate transport of NO<sub>x</sub> affecting attainment and maintenance of the 1997 ozone NAAQS as required under CAA s. 110(a)(2)(D). CAIR resulted in a significant reduction of NO<sub>x</sub> emissions during the ozone season in areas contributing to Sheboygan County over the 2009-2014 period.

Table A9.2 shows emission levels for EGUs affected by the CAIR rule through 2014 for states upwind of the Sheboygan County area. The states listed (in decreasing order of contribution) are those states contributing more than 1% of the 2008 standard (0.75 ppb) to the Sheboygan Kohler-Andre monitor. Between 2008 and 2014, total EGU emissions across these states decreased by approximately 24%. Emission reductions were proportionately larger, ranging from 24% to 54.4%, for the three states contributing the most to Sheboygan County ozone concentrations: Illinois, Indiana, and Wisconsin.

Starting with the 2015 ozone season, the Cross-State Air Pollution Rule (CSAPR) replaced CAIR to reduce interstate NO<sub>x</sub> transport relative to the 1997 ozone NAAQS. CSAPR implemented NO<sub>x</sub> budgets for the impacted states in two phases. Phase I limits NO<sub>x</sub> emissions in 2015 and 2016. EPA published the CSAPR Update (81 FR 74504) in 2016 to address NO<sub>x</sub> transport affecting the attainment and maintenance of the 2008 ozone NAAQS (79 FR 16436). The CSAPR Update establishes Phase II NO<sub>x</sub> budgets starting with the 2017 ozone season.

### VOC Control Measures

*VOC RACT / CTG* – Wisconsin has implemented VOC RACT to fulfill control technology guideline (CTG) requirements for the Wisconsin nonattainment area under the 1997 ozone NAAQS. This area included all of Sheboygan County. These VOC RACT / CTG requirements are codified under chapters NR 419 through 424, Wis. Adm. Code. The list of the CTGs in place in Wisconsin are provided in Appendix 10. All of these CTG requirements were implemented and effective prior to the 2011 base year.

**Table A9.2. EGU NO<sub>x</sub> emitted under the CAIR program in states contributing > 0.75 ppb (1% of the 2008 NAAQS) in Sheboygan County.**

State	CSAPR Modeled Contribution to Sheboygan County <sup>1</sup> (ppb)	Ozone Season NO <sub>x</sub> Emissions (Tons)			Percent Reduction		
		2008	2011	2014	2008 - 2011	2011 – 2014	2008 – 2014
Illinois	28.209	29,891	25,755	17,132	13.8%	33.5%	42.7%
Indiana	11.244	53,016	48,926	40,247	7.7%	17.7%	24.1%
Wisconsin	8.437	19,947	13,818	9,087	30.7%	34.2%	54.4%
Michigan	3.117	38,437	32,780	24,981	14.7%	23.8%	35.0%
Ohio	3.027	52,479	43,346	32,181	17.4%	25.8%	38.7%
Kentucky	2.007	39,324	40,055	33,896	-1.9%	15.4%	13.8%
Missouri	1.812	34,820	26,912	31,235	22.7%	-16.1%	10.3%
W. Virginia	1.167	25,398	23,431	28,681	7.7%	-22.4%	-12.9%
Pennsylvania	1.159	53,545	64,885	44,005	-21.2%	32.2%	17.8%
Virginia	0.865	17,392	15,620	9,695	10.2%	37.9%	44.3%
Arkansas	0.840	16,561	17,868	18,135	-7.9%	-1.5%	-9.5%
Louisiana	0.767	24,031	22,785	18,278	5.2%	19.8%	23.9%
<b>Total</b>		<b>404,842</b>	<b>376,180</b>	<b>307,554</b>	<b>7.1%</b>	<b>18.2%</b>	<b>24.0%</b>

<sup>1</sup> Ozone contributions as determined by EPA in the final CSAPR rule, 76 FR 48208, August 8, 2011.

Source: EPA Clean Air Markets Division, Database of reported emissions.

*National Emission Standards for Hazardous Air Pollutant (NESHAP) rules* – A number of federal NESHAP rules were implemented to control hazardous pollutants. These rules include requirements to control hazardous organic pollutants through ensuring complete combustion of fuels or implementing requirements for emissions of total hydrocarbons. Under either approach, the rules act to reduce total VOC emitted by the affected sources. These NESHAP rules apply to both major and area source facilities. Major sources are those facilities emitting more than 10 tons per year of a single hazardous air pollutant or more than 25 tons per year of all hazardous air pollutants in total. Area sources are those facilities that emit less than the major source thresholds for hazardous air pollutants.

These NESHAP measures apply to sources within the Sheboygan County nonattainment area but also apply nationally, thereby reducing the transport of VOC emissions into the nonattainment area. The NESHAP rules that apply to sources in Sheboygan County are listed in Table A9.3.

Table A9.3 lists the point sources emitting VOCs in the Sheboygan County nonattainment area in 2014. This assessment shows that approximately 86% of 2014 VOC emissions come from non-combustion sources. As indicated in Table A9.3, the majority of these non-combustion-related emissions are subject to various NESHAP rules that became effective prior to 2011. Other sources are subject to VOC CTGs, as indicated. These rules aid in controlling VOC emissions but were implemented prior to 2011 with no additional incremental reduction expected between 2011 and 2014.

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**Table A9.3. 2014 VOC emissions and requirements for point sources in the Sheboygan County nonattainment area.**

FID	Facility	Unit	Annual VOC (Tons)	Percent of Total	Permanent and Enforceable Control Measures
<b>Combustion Sources</b>					
230006260	WPL-Edgewater Power Plant	B24 & B25	37.5	5.5%	MATS NESHAP Combustion Requirements
Multiple	Industrial, Commercial and Institutional boilers and Process Heaters	116 units	22.3	3.3%	ICI Boiler and process heater NESHAP combustion requirements <sup>1</sup>
Multiple	Reciprocating Engines	19 units	29.6	4.4%	RICE NESHAP requirements <sup>1</sup>
Multiple	Other small combustion units	7 units	1.4	0.2%	Individual emission units subject to NESHAPs as applicable
<b>Subtotal =</b>		<b>144 units</b>	<b>90.8</b>	<b>13.4%</b>	
<b>Non-Combustion Sources</b>					
460032870	Kohler Co. Metals Processing	13 units	56.1	8.3%	Iron and Steel Foundries NESHAP requirements <sup>1</sup>
460038810	Sheboygan Paint Company	2 units	39.0	5.8%	Miscellaneous Coating Manufacturing NESHAP requirements <sup>1</sup>
460041230 460141330	Nemak (2 plants)	9 units	30.0	4.4%	Secondary Aluminum Production NESHAP requirements <sup>1</sup>
460034630	Bemis Manufacturing - Plant B	4 units	19.4	2.9%	Plywood and Composite Wood Products NESHAP requirements <sup>1</sup>
Multiple	Iron Foundries (2)	12 units	23.4	3.5%	Iron and Steel Foundries Area Source NESHAP requirements <sup>1</sup>
Multiple	Specific NESHAP source categories as applicable	21 units	11.3	1.7%	Individual emission units subject to NESHAP requirements <sup>1</sup>
Multiple	Individual emission units subject to VOC RACT / CTGs as applicable	105 units	405.7	60.0%	Individual emission units subject to VOC RACT / CTGs as applicable
<b>Subtotal =</b>		<b>166 units</b>	<b>584.9</b>	<b>86.6%</b>	
<b>Total =</b>			<b>675.7</b>	<b>100.0%</b>	

MATS = Mercury and Air Toxics, ICI = Industrial, Commercial and Institutional, RICE = Reciprocating Internal Combustion Engine.

<sup>1</sup> The emissions units are subject to either major source or area source NESHAP emission requirements based on size thresholds. The applicability of requirements and exemptions for each unit has not been determined for purposes of this assessment. Natural gas-fired boilers and processes at area sources are not subject to requirements.

Table A9.3 shows that approximately 13% of VOC point source emissions in 2014 came from combustion activities or processes. These combustion sources include two utility boilers, which accounted for about 5.5% of total VOC emissions. The remaining combustion emissions originated from a number of industrial boilers, reciprocating engines, and various space and process heating units. It should be noted, however, that although the combustion NESHAP

requirements are expected to minimize VOC emissions, the incremental emission reductions due to these rules are expected to be relatively small and hard to quantify.

## **2. Area Source Control Measures**

As noted for point sources, Wisconsin has implemented all of the necessary VOC RACT / CTG rules under chs. NR 419 through 424, Wis. Adm. Code. A number of these rules limit VOC emissions from area sources as noted in Appendix 10. Wisconsin previously had a Stage 2 vehicle refueling vapor recovery program in place. However, this program was removed from Wisconsin's ozone SIP on November 4, 2013 (78 FR 65875) with EPA approval because the equipment was found to defeat onboard vapor recovery systems for some new vehicles. As stage 2 equipment is removed, actual VOC emissions are anticipated to decrease slightly. This SIP revision was based on a technical showing of net benefit as required under the CAA in order to prevent SIP backsliding.

There are also a number of federal programs in place which reduce area source VOC emissions. VOC emission standards for consumer and commercial products were promulgated under 40 CFR Part 59. This program was implemented prior to 2011 and will continue to maintain reduced VOCs emitted from this source category. Actual emission levels going into the future will vary depending on population and activity use factors. Two other federal rules, the NESHAPs for Gasoline Distribution (Stage I) and Area Source ICI Boilers, also control area VOC emissions associated with fuel storage and transfer activities.

## **3. Onroad Source Control Measures**

Both NO<sub>x</sub> and VOC emissions from on-road mobile sources are substantially controlled through federal new vehicle emission standards programs and fuel standards. Although initial compliance dates in many cases were prior to 2011, these regulations have continued to reduce area-wide emissions as fleets turn over to newer vehicles. All of these programs apply nationally and have reduced emissions both within the nonattainment area and contributing ozone precursor transport areas. The federal programs contributing to attainment of the 2008 ozone NAAQS include those listed in Table A9.4.

The Wisconsin-administered I/M program also limits on-road VOC and NO<sub>x</sub> emissions from on-road sources and is required for Sheboygan County. The Wisconsin I/M program was first implemented in 1984 and has gone through several modifications and enhancements since that time. The I/M program requirements are codified in ch. NR 485, Wis. Adm. Code. The I/M program reduces average vehicle VOC and NO<sub>x</sub> emissions and garners some level of continued incremental reduction as fleets turn over to new vehicles.



**Table A9.4. Federal onroad mobile source regulations contributing to attainment.**

On-road Control Program	Pollutants	Model Year <sup>1</sup>	Regulation
Passenger vehicles, SUVs, and light duty trucks – emissions and fuel standards	VOC & NOx	2004 – 2009+ (Tier 2) 2017+ (Tier 3)	40 CFR Part 85 & 86
Light-duty trucks and medium duty passenger vehicle – evaporative standards	VOC	2004 - 2010	40 CFR Part 86
Heavy-duty highway compression engines	VOC & NOx	2007+	40 CFR Part 86
Heavy-duty spark ignition engines	VOC & NOx	2005 – 2008+	40 CFR Part 86
Motorcycles	VOC & NOx	2006 – 2010 (Tier 1 & 2)	40 CFR Part 86
Mobile Source Air Toxics – fuel formulation, passenger vehicle emissions, and portable container emissions	Organic Toxics & VOC	2009 - 2015 <sup>2</sup>	40 CFR Part 59, 80, 85, & 86
Light duty vehicle corporate average fuel economy (CAFE) standards	Fuel efficiency (VOC and NOx)	2012-2016 & 2017-2025	40 CFR Part 600

<sup>1</sup>The range in model years affected can reflect phasing of requirements based on engine size or initial years for replacing earlier tier requirements.

<sup>2</sup>The range in model years reflects phased implementation of fuel, passenger vehicle, and portable container emission requirements as well as the phasing by vehicle size and type.

#### **4. Nonroad Source Control Measures**

Similar to on-road sources, VOC and NOx emitted by non-road mobile sources are significantly controlled via federal standards for new engines. These programs therefore reduce ozone precursor emissions generated within Sheboygan County and in the broader regional areas contributing to ozone transport. Table A9.5 lists the non-road source categories and applicable federal regulations. The non-road regulations continue to slowly lower average unit and total sector emissions as equipment fleets are replaced each year (approximately 20 years for complete fleet turnover) pulling the highest emitting equipment out of circulation or substantially reducing its use. The new engine tier requirements are implemented in conjunction with fuel programs regulating fuel sulfur content. The fuel programs enable achievement of various new engine tier VOC and NOx emission limits.

#### **5. New Source Requirements**

Wisconsin has a fully approved NSR program. For areas designated or redesignated attainment, the NSR program implements PSD requirements as codified under ch. NR 405, Wis. Adm. Code. The state's PSD program has also been approved by EPA, as discussed in section 2.1 of the main document. Under the PSD program, any new major source or an existing major source undergoing a major modification will be required to apply Best Available Control Technology. A major modification is defined as a major source increasing net emissions or potential-to-emit of

an air contaminant above the applicable thresholds of 40 tons NO<sub>x</sub> per year and/or 40 tons VOC per year.

**Table A9.5. Federal nonroad mobile source regulations contributing to attainment.**

Nonroad Control Program	Pollutants	Model Year <sup>1</sup>	Regulation
Aircraft	HC & NO <sub>x</sub>	2000 – 2005+	40 CFR Part 87
Compression Ignition <sup>2</sup>	NMHC & NO <sub>x</sub>	2000 – 2015+ (Tier 4)	40 CFR Part 89 & 1039
Large Spark Ignition	HC & NO <sub>x</sub>	2007+	40 CFR Part 1048
Locomotive Engines	HC & NO <sub>x</sub>	2012 – 2014 (Tier 3)	
2015+ (Tier 4)	40 CFR Part 1033		
Marine Compression Ignition	HC & NO <sub>x</sub>	2012 – 2018	40 CFR Part 1042
Marine Spark Ignition	HC & NO <sub>x</sub>	2010+	40 CFR Part 1045
Recreational Vehicle <sup>3</sup>	HC & NO <sub>x</sub>	2006 – 2012 (Tier 1 – 3) (phasing dependent on vehicle type)	40 CFR Part 1051
Small Spark Ignition Engine <sup>4</sup> < 19d Kw – emission standards	HC & NO <sub>x</sub>	2005 – 2012 (Tier 2 & 3)	

HC – Hydrocarbon (VOCs)

NMHC – Non-Methane Hydrocarbon (VOCs)

<sup>1</sup>The range in model years affected can reflect phasing of requirements based on engine size or initial years for replacing earlier tier requirements.

<sup>2</sup>Compression ignition applies to diesel non-road compression engines including engines operated in construction, agricultural, and mining equipment.

<sup>3</sup>Recreational vehicles include snowmobiles, off-road motorcycles, and ATVs

<sup>4</sup>Small spark ignition engines include engines operated in lawn and hand-held equipment.

## 6. Section 110(l) Noninterference Requirements

When revising rules and regulations in the SIP, the state is responsible for demonstrating that such a change will not interfere with attainment of the NAAQS, Rate of Progress (ROP), or other applicable CAA requirements for any of the criteria pollutants. This request for redesignation does not implement any changes in the control programs or requirements approved in the SIP and in place during the 2014 attainment year. Therefore, all requirements related to section 110(l) noninterference are fulfilled under this request. Further, Wisconsin will continue to implement all control programs currently in the SIP for emissions of ozone precursors from Sheboygan County, Wisconsin. As documented in Wisconsin's I-SIP for the 2008 ozone NAAQS (Appendix 1), the WDNR has the legal authority and necessary resources to actively enforce any violations of its rules or permit provisions. Removal of any control program from the SIP will be subject to a public hearing process, a demonstration of noninterference, and approval by EPA.

## **APPENDIX 10**

### **Wisconsin VOC RACT Regulations**

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**Table A10.1. Volatile Organic Compounds (VOC) Control Technique Guidelines Incorporated into Wisconsin Administrative Code.**

Source	Title (Description)	EPA CTG Report No.	Wis. Adm. Code Incorporation	Emissions Inventory Classification <sup>1</sup>
<b>Petroleum and Gasoline Sources</b>				
Bulk Gasoline Plants	Control of Volatile Organic Emissions from Bulk Gasoline Plants [bulk gasoline plant unloading, loading and storage]	EPA-450/2-77-035	NR 420.04(2)	Stationary Point Source
Refinery Equipment - Vacuum Producing Systems, Wastewater Separators, and Process Unit Turnarounds	Control of Refinery Vacuum Producing Systems, Wastewater Separators, and Process Unit Turnarounds	EPA-450/2-77-025	NR 420.05(1), (2) and (3)	Stationary Point Source
Refinery Equipment - Control of VOC Leaks	Control of Volatile Organic Compound Leaks from Petroleum Refinery Equipment	EPA-450/2-78-036	NR 420.05(4)	Stationary Point Source
Refinery Equipment - Control of VOC Leaks	Control of Volatile Organic Compound Equipment Leaks from Natural Gas/Gasoline Processing Plants	EPA-450/3-83-007	NR 420.05(4)	Stationary Point Source
Tanks - Fixed Roof	Control of Volatile Organic Emissions from Storage of Petroleum Liquids in Fixed-Roof Tanks	EPA-450/2-77-036	NR 420.03(5)	Stationary Point Source
Tanks - External Floating Roofs	Control of Volatile Organic Emissions from Petroleum Liquid Storage in External Floating Roof Tanks	EPA-450/2-78-047	NR 420.03(6) and (7)	Stationary Point Source
Gasoline Loading Terminals	Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals	EPA-450/2-77-026	NR 420.04(1)	Stationary Point Source
Tank Trucks	Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems	EPA-450/2-78-051	NR 420.04(4)	Stationary Area Source
Gasoline Delivery - Stage I Vapor Control Systems	Design Criteria for Stage I Vapor Control Systems – Gasoline Service Stations	EPA-450/R-75-102	NR 420.04(3)	Stationary Area Source
<b>Surface Coating</b>				
Automobile & Light-duty Truck	Control Techniques Guidelines for Automobile and Light-Duty Truck Assembly Coatings	EPA 453/R-08-006	NR 422.09	Stationary Point Source

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Source	Title (Description)	EPA CTG Report No.	Wis. Adm. Code Incorporation	Emissions Inventory Classification <sup>1</sup>
Cans	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks	EPA-450/2-77-008	NR 422.05	Stationary Point Source
Coils	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks	EPA-450/2-77-008	NR 422.06	Stationary Point Source
Fabric & Vinyl	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks	EPA-450/2-77-008	NR 422.08	Stationary Point Source
Flat Wood Paneling	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume VII: <u>Factory Surface Coating of Flat Wood Paneling</u>	EPA-450/2-78-032	NR 422.13	Stationary Point Source
	Control Techniques Guidelines for Flat Wood Paneling Coatings	EPA-453/R-06-004	NR 422.131	Stationary Point Source
Large Appliances	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume V: Surface Coating of Large Appliances	EPA-450/2-77-034	NR 422.11	Stationary Point Source
	Control Techniques Guidelines for Large Appliance Coatings	EPA 453/R-07-004	NR 422.115	Stationary Point Source
Magnet Wire	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume IV: Surface Coating of Insulation of Magnet Wire	EPA-450/2-77-033	NR 422.12	Stationary Point Source
Metal Furniture	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume III: Surface Coating of Metal Furniture	EPA-450/2-77-032	NR 422.1	Stationary Point Source
	Control Techniques Guidelines for Metal Furniture Coatings	EPA 453/R-07-005	NR 422.105	Stationary Point Source
Metal Parts, miscellaneous	Control Techniques Guidelines for Miscellaneous Metal and Plastic Parts Coatings	EPA 453/R-08-003	NR 422.15	Stationary Point Source
	Fire Truck and Emergency Response Vehicle Manufacturing - surface coating	(covered under Misc. Metal Parts CTG)	NR 422.151	Stationary Point Source

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Source	Title (Description)	EPA CTG Report No.	Wis. Adm. Code Incorporation	Emissions Inventory Classification <sup>1</sup>
Paper, Film and Foil	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks	EPA-450/2-77-008	NR 422.07	Stationary Point Source
	Control Techniques Guidelines for Paper, Film, and Foil Coatings	EPA 453/R-07-003	NR 422.075	Stationary Point Source
Plastic Parts - Coatings	Control Techniques Guidelines for Miscellaneous Metal and Plastic Parts Coatings	EPA 453/R-08-003	NR 422.083	Stationary Point Source
Traffic Markings	Reduction of Volatile Organic Compound Emissions from the Application of Traffic Markings	EPA-450/3-88-007	NR 422.17	Stationary Area Source
Wood Furniture	Control of Volatile Organic Compound Emissions from Wood Furniture Manufacturing Operations	EPA-453/R-96-007	NR 422.125	Stationary Point Source
<b>Graphic Arts</b>				
Rotogravure & Flexography	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume VIII: Graphic Arts-Rotogravure and Flexography	EPA-450/2-78-033	NR 422.14	Stationary Point Source
Flexible Packaging	Control Techniques Guidelines for Flexible Package Printing	EPA-453/R-06-003	NR 422.141	Stationary Point Source
Letterpress	Control Techniques Guidelines for Offset Lithographic Printing and Letterpress Printing	EPA-453/R-06-002	NR 422.144	Stationary Point Source
Lithographic	Control Techniques Guidelines for Offset Lithographic Printing and Letterpress Printing	EPA-453/R-06-002	NR 422.142 and 422.143	Stationary Point Source
<b>Solvents</b>				
Dry Cleaning	Control of Volatile Organic Emissions from Perchloroethylene Dry Cleaning Systems	EPA-450/2-78-050	NR 423.05	Stationary Area Source
Dry Cleaning	Control of Volatile Organic Compound Emissions from Large Petroleum Dry Cleaners	EPA-450/3-82-009	NR 423.05	Stationary Area Source
Industrial Cleaning	Control Techniques Guidelines for Industrial Cleaning Solvents	EPA-453/R-06-001	NR 423.035 and 423.037	Stationary Area Source
Metal Cleaning	Control of Volatile Organic Emissions from Solvent Metal Cleaning	EPA-450/2-77-022	NR 423.03	Stationary Area Source
<b>Chemical</b>				

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Source	Title (Description)	EPA CTG Report No.	Wis. Adm. Code Incorporation	Emissions Inventory Classification <sup>1</sup>
Pharmaceutical	Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products	EPA-450/2-78-029	NR 421.03	Stationary Point Source
Polystyrene	Control of Volatile Organic Compound Emissions from Manufacture of High-Density Polyethylene, Polypropylene, and Polystyrene Resins	EPA-450/3-83-008	NR 421.05	Stationary Point Source
Rubber	Control of Volatile Organic Emissions from Manufacture of Pneumatic Rubber Tires	EPA-450/2-78-030	NR 421.04	Stationary Point Source
Synthetic Organic	Control of Volatile Organic Compound Emissions from Air Oxidation Processes in Synthetic Organic Chemical Manufacturing Industry	EPA-450/3-84-015	NR 421.07	Stationary Point Source
Synthetic Organic	Control of Volatile Organic Compound Emissions from Reactor Processes and Distillation Operations in Synthetic Organic Chemical Manufacturing Industry	EPA-450/4-91-031	NR 421.07	Stationary Point Source
Synthetic Resin	Control of Volatile Organic Compound Leaks from Synthetic Organic Chemical Polymer and Resin Manufacturing Equipment	EPA-450/3-83-006	NR 421.05	Stationary Point Source
<b>Manufacturing</b>				
Asphalt	Control of Volatile Organic Emissions from Use of Cutback Asphalt	EPA-450/2-77-037	NR 422.16	Stationary Area Source

<sup>1</sup> For purposes of this table, an “Area” source is defined as a nonpoint or fugitive emission source.